PLANTÆ ASIATICÆ RARIORES;

OR,

DESCRIPTIONS AND FIGURES

OF A SELECT NUMBER OF

UNPUBLISHED EAST INDIAN PLANTS,

BY

NATHANIEL WALLICH, M.&PH.D.

KNIGHT OF THE ROYAL DANISH ORDER OF DANNEBROG:

FELLOW OF THE ROYAL SOCIETIES OF LONDON AND EDINBURGH; CORRESPONDING MEMBER OF THE ROYAL INSTITUTE OF FRANCE; FELLOW OF THE LINNEAN AND GEOLOGICAL SOCIETIES OF LONDON; MEMBER OF THE ROYAL SOC. OF SCIENCES, AND THE ROYAL MEDICAL SOC. OF COPENHAGEN, THE ACAD. NAT. CURIOS. OF BONN, THE ASIAT., AGRIC. AND MED. SOCIETIES OF CALCUTTA, THE ROYAL ASIAT. SOC. OF LONDON, THE SOC. NAT. CURIOS. OF MOSCOW; FOREIGN MEMB. OF THE PHYSIOGRAPH. SOC. OF LUND, AND OF THE HORT. SOC. OF LONDON; CORRESPONDING MEMB. OF THE MUS. D'HIST. NAT. OF PARIS, OF THE ACAD. OF NAT. SCIENC. OF PHILAD., THE SOC. OF ARTS AND SCIENCES OF BATAVIA, THE ECON. SOC. OF THE PHILIPPINES; HONORARY MEMB. OF THE HELVETIC SOC. OF NAT. SCIENC., THE ROYAL BOT. SOC. OF RATISBON, THE LIT. SOC. OF MADRAS, THE AGRIC. SOC. OF ST. HELENA, &c. &c.

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PLANTÆ ASIATICÆ RARIORES.

ASTER BELLIDIOIDES. Tab. 101.

HERBACEUS, pubescens; caulibus adscendentibus ramisque alternis, simplicibus gracillimis; foliis radicalibus cuneatis, extrorsùm acutè serratis, deorsùm attenuatis, integerrimis, caulinis linearibus, sessilibus, subintegerrimis; floribus terminalibus, solitariis, subpedunculatis; foliolis involucri linearibus, pubescentibus, acutis; disco luteo, radii corollulis angustissimè linearibus, creberrimis, pallidè violaceis vel albis.

Aster bellidioides, Hamilt. in Don. Prodr. Nepal. 177.

Incolit montes plerosque Napaliæ superiores, florens mensibus Januarii—Martii. Semina matura Aprili.

Herba adscendens, palmaris, pedalis vel bipedalis, pube brevi conspersa. Radix constans fibris pluribus, ramulosis. Caules aliquot debiles, graciles, subadscendentes, levitèr sulcati, purpurascentes, supernè *ramos* emittentes alternos, tenerrimos, simplices, teretes. Folia *radicalia* plura, cæspitosa, erecto-patula, cuneata, acuta, extrorsùm grossiusculè serrata, deorsùm integerrima et attenuata, subpetiolata, 2—3-pollicaria, utrinque levitèr pubescentia, ciliata, obsoletè 3-nervia, subtùs reticulata; *ramea* sparsa, sessilia, linearia vel lineari-lanceolata, integerrima, inferiora nunc serrulata, summa brevissima, remota. Flores terminales, solitarii, apicibus caulis ramorumque gracillimis, subnudis pedunculati, diametrum parùm ultrà pollicarem emetientes. Involucrum plano-hemisphæricum, squarrosum; *foliola* linearia, acuta, pilosula. Receptaculum planum, nudum. Discus luteus, convexiusculus, multiflorus. Corollulæ hermaphroditæ, tubulosæ, pubescentes, limbo patulo, acutè 5-fido. Ovaria subcylindrica, angulosa, pubescentia, coronata *pappo* capillaceo, sessili, copioso, sub lente denticulato-scabro, corollâ parùm breviore. Stigma bifidum, supra tubum exsertum, subsessilem antherarum levitèr elevatum. Radius patentissimus, constans corollulis fœmineis creberrimis, dilutè violaceis, raró albicantibus, ligulatis, angustissimè linearibus, disco triplò longioribus, obsoletissimè et obtusè 3-denticulatis, basi puberulis pappoque parciore et breviore circumdatis; *stylo* gracili, *stigmate* bilobo. Semina parva, oblonga, angulata, pilosula, fusca.

This extremely elegant plant is one of the commonest as well as most ornamental productions on open exposed situations in the mountains which surround the valley of Nipal. It blossoms during the cold part of the year, from the month of January until March. The flowers are of a pale lilac colour, with a yellow disc; the radius changing sometimes into nearly white.

Plate CI. Fig. 1. Corolla of the radius. 2. 3. Corolla of the disc. 4. 5. Ovary and corolla of the latter.

SONERILA ANGUSTIFOLIA. Tab. 102. (figura sinistra.)

Foliis ovato-oblongis, acuminatis, subæqualibus, ciliatis, basi acutis, utrinque ramisque simplicibus pilosulis; racemis terminalibus lateralibusque, paucifloris.

Sonerila angustifolia, Roxb. Flor. Ind. 1. p. 182.

Crescit in montibus Bengalæ orientalis, florens tempore anni pluvioso.

Herba erecta, carnosa, palmaris vel pedalis, pilis brevibus, subulatis, copiosis patentibus, hyalinis conspersa. Caulis cylindricus, pennam scriptoriam crassus, subpellucidus, simplex, vel ramulos aliquot axillares, oppositos, breves, simplices emittens. Folia opposita, subdecussatìm patentia, interstitiis dimidiò longiora, ovata, parùm oblongata, attenuato-acuminata, vix crenulata, setis brevibus, frequentibus ciliata, basi acutâ parùm obliqua, 3—5-pollicaria, utrinque pilosa, suprà saturatè viridia, subtùs purpurea, costâ nervisque alternis prominentibus, subvillosis, venulosa. Petiolus pollicaris vel infrà, levitèr sulcatus. Pedunculus terminalis caulis ramulorumque, nunc lateralis versus basin caulis, 2-pollicaris, teres, pilosulus, nudus, apice gerens *flores* aliquot rubros, subracemosos, secundos, brevè pedicellatos, suffultos *bracteolis* parvis, lanceolatis, foliaceis. Calyx 3-dentatus; *dentes* parvi, acuti, triangulares. Petala 3, ovato-lanceolata, ferè unguicularia, acuta, basi parùm contractâ vertici ovarii inter dentes calycinos inserta. Filamenta 3, subulata, *antheris* breviora. Ovarium oblongo-prismaticum, 3-costatum.

Plate CII. (the figure on the left.) Fig. 1. Flower. 2. The same opened.

SONERILA SQUARROSA. Tab. 102. (figura dextra.)

Suffruticosa, erecta, glabra; caule subsimplici, aculeolis subulatis, mollibus, stipulaceis dense munito; foliis confertis, cuneato-lanceolatis, cuspidato-serratis, lævibus, in petiolum brevissimum attenuatis.

Sonerila squarrosa, Wall. in Roxb. Flor. Ind. 1. p. 182.

Crescit et floret cum priore specie.

I believe I shall not be considered as deviating materially from the original plan of this work, if I occasionally give a plate of a plant which, although published before, has not hitherto been figured. The present and the preceding elegant plants are instances of this description, which will not often occur. I possess eight other species of this curious *Melastomaceous* genus, of which I am happy to announce that Mr. Brown has kindly undertaken to give a synopsis, in a work shortly to be presented by him to the world.

I have nothing to add to the description of *Sonerila squarrosa* which I published in 1820 in Roxburgh's *Flora Indica*.

Plate CII. (the figure on the right.) Fig. 1. Part of the stem, with a leaf attached, enlarged. 2. Flower. 3. Corolla and calyx, opened. 4. Calyx.

ARISTOLOCHIA SACCATA. Tab. 103.

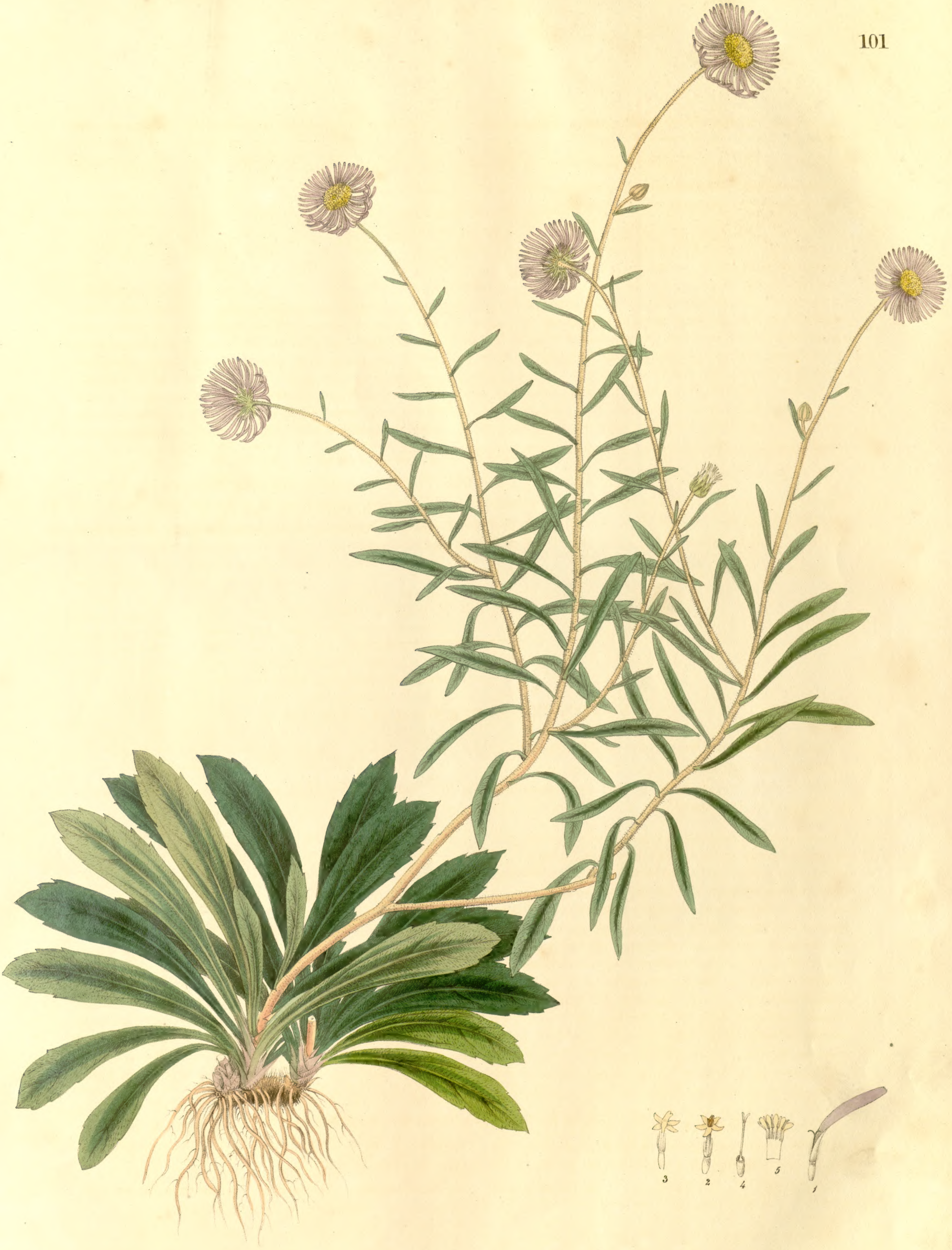
Volubilis; foliis oblongis, vel ovato-oblongis, acuminatis, integris, subtùs ramisque villosis; floribus lateralibus, racemosis, perianthio villoso, inflexo, mediò ventricoso, limbo orbiculato, angustissimo, subrepando, patentissimo, fauce maximâ.

Crescit in montibus altioribus Napaliæ, florens fructificansque mensibus Januarii—Aprilis. In montosis Bengalæ orientalis, *M. R. Smith*. In Kamaon, *R. Blinkworth*.

Nomen Bengalense, *Matteea Chita* (*Plumbago terrestris*).

Frutex magnus, latè volubilis, *caule* digitum et ultrà crasso, ligno levissimo, radiatìm celluloso, cortice ferè suberoso, rimoso et anguloso. Rami longi, graciles, laxi, parùm angulati, tomento molli, ferrugineo, recurvato obsiti, vetustiores glabriores; novelli cum foliis recentibus, aliquandò tota planta densissimè tomentosa. Folia alterna, erecto-patentia, subdistantia, oblongo- vel ovato-cordata, attenuato-acuminata, integerrima, sinu basis latiusculo, profundo, lobis rotundatis, suprà glabriuscula, nitidula, subtùs 5-nervia, reticulato-venosa, nervis venisque prominentibus, plùs minùsve villosa, membranacea, 5—10-pollicaria. Flores atropurpurei, fœtidi, villosi, parallelè venosi, reticulati, intùs flavi, pauci dispositi in racemos breves, subfasciculatos, axillares foliorum delapsorum, ad basin ramorum vetustiorum ipsiusque caulis, nunc ferè solitarii, penduli, mediâ parte rectè adscendentes, 3-pollicares. Pedunculus *communis* 2-pollicaris, flexuosus, adscendens, ferrugineo-villosus; *partiales* alterni, mediò geniculati, *bracteolâ*que muniti ovatâ, caducâ, villosâ. Perianthii subcarnosi, valdè villosi, dimidia inferior pars descendens, cylindrica, deorsùm saccato-ampliata et ventricosa; exterior dimidia pars parallelè adscendens, sensìm ampliata in *faucem* magnam, patentissimam, pollicarem, intùs flavam, circumdatam *limbo* orbiculato, angusto, sinuato, obsoletissimè 3-lobo, patenti, plano vel levitèr recurvato. Ovarium oblongo-cylindricum, subclavatum, unguiculare, obsoletè 6-sulcatum, densè villosum. Stylus crassus, brevis, triquetrus. Stigmata 3, carnosa, semilunaria, rorida. Antheræ oblongæ, 2—4 in singulo latere superioris styli partis aggregatæ. Capsula ovata, pollicaris vel 2-pollicaris, 6-angulata, angulis valdè prominentibus, subcarinatis, glabriuscula, insidens pedunculo gracili, clavato, ipsam æquanti.

The accompanying plate represents the plant which was introduced in 1815 into the Calcutta Garden from Sillet. That which grows in Nipal differs in some respect, having the leaves broader, of an ovate-cordate form, and in being more villous. But as the flowers are exactly alike, and as the other Indian species vary considerably, I have thought it best not to add to the difficulties of the genus by separating the two shrubs. The flowers are generally produced



Gorachand del^t

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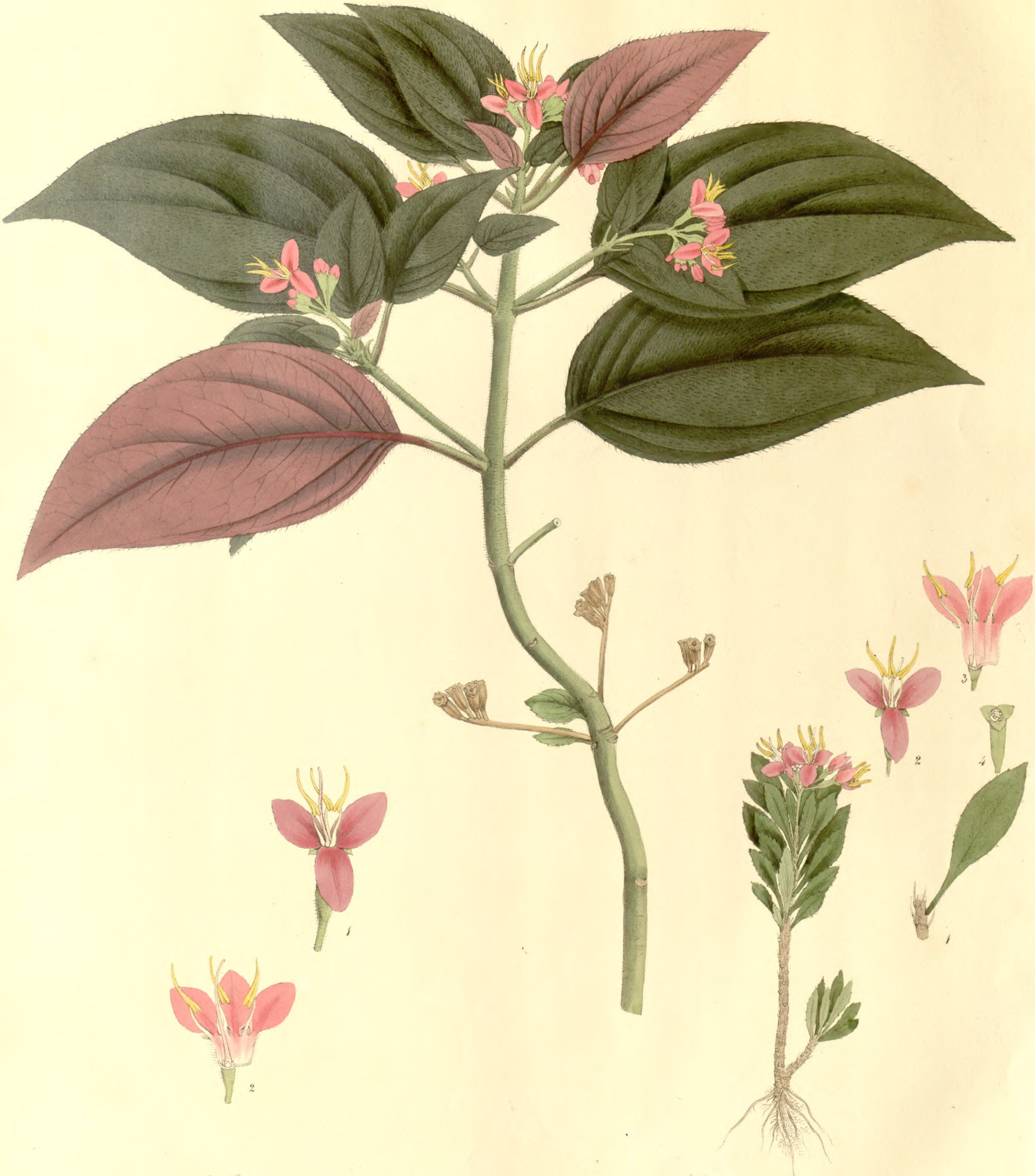
M. Gauci lith.

Aster bellidioides



Sonerila angustifolia

Sonerila squarrosa

Gorachand del.t

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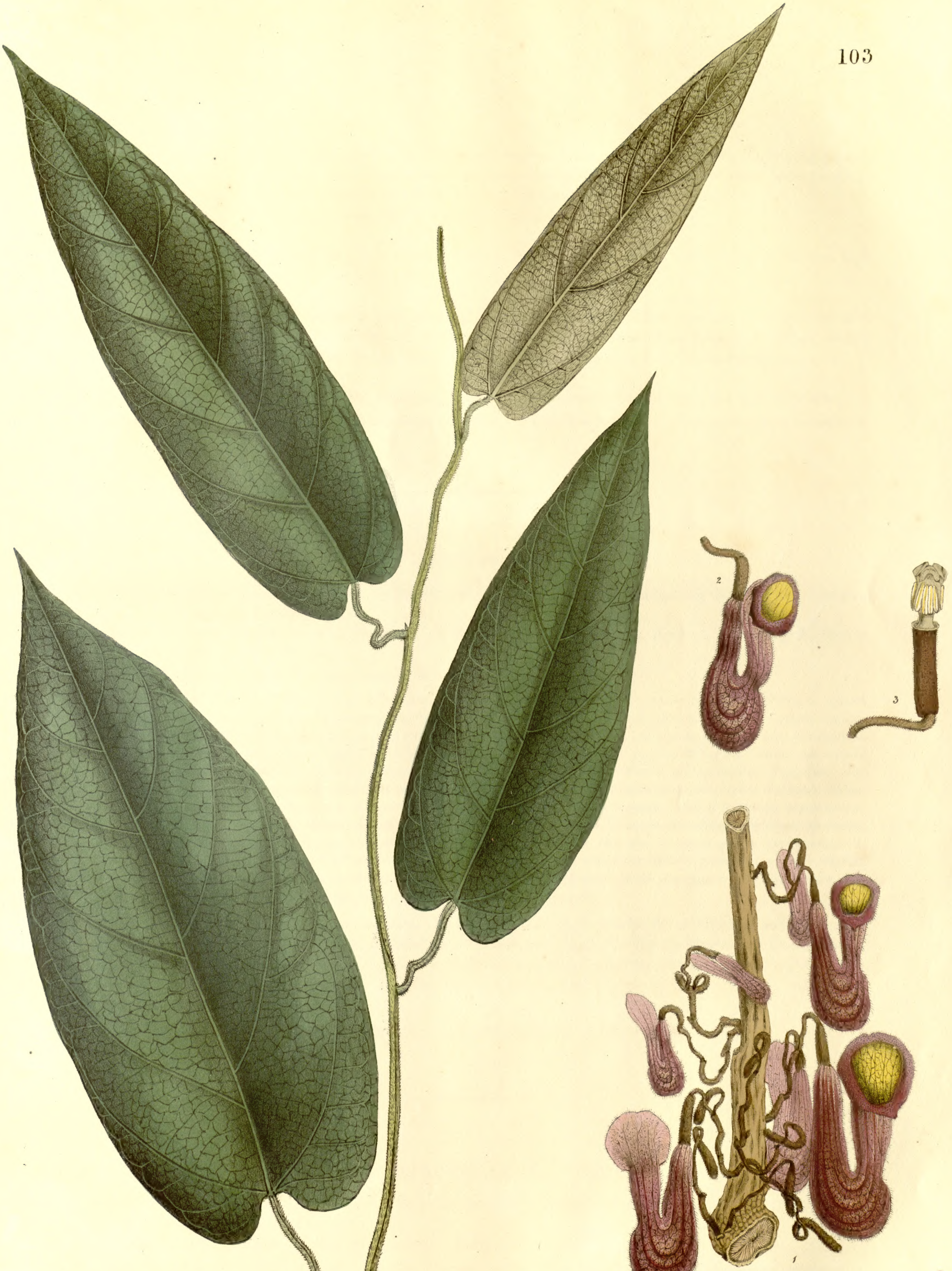

Aristolochia saccata

Gorachand del^t. Printed by Engelmann, Graf, Coindet & Co. M. Gauci lith.

in clusters along the woody and naked parts of the stem and branches; sometimes quite low down towards the ground, whence is derived the otherwise very inappropriate name of *Ground-Plumbago*, which the plant bears in Sillet. They are of a curious form, and not void of elegance, although their smell is extremely offensive.

Besides this plant I am acquainted with the following East Indian species of *Aristolochia.*

A. indica, Linn.

A native of the plains of Hindustan. I have also found it in Pegu about Rangoon. It blossoms and produces fruit during the rainy season.

A. acuminata, Lam.

This very variable plant grows wild in many places of Bengal, such as Sillet, Chittagong, &c. I have found it likewise in the island of Penang, on mountains; on the banks of the Irawaddi, and of the rivers in Martaban: also at the foot of the mountain called Taong Dong near Ava. It blossoms and ripens its fruit throughout the year.

A. bracteata, Retz.

A native of Coromandel. The late Dr. Hamilton gathered it on the banks of the Jumna, in Upper Hindustan.

Plate CIII. Fig. 1. Lower part of a branch with clusters of flowers. 2. A separate flower. 3. Ovary and column of fructification.

ACER LÆVIGATUM. Tab. 104.

Foliis oblongis, acuminatis, serrulatis, nitidis, lævibus; corymbis terminalibus, subpedunculatis; petalis cuneatis; fructûs alis divergentibus, cultriformibus.

Crescit in sylvis montium altiorum Napaliæ; etiam in alpibus Sirmorensibus, *Kamrup.* Floret Aprili, fructus maturescunt versus finem pluviarum.

Nomen Newarrense, *Suslendi;* Parbutteum, *Cherauni.*

Arbor magna et procera. Truncus 30—40 pedes altus, diametro 3—4-pedali, indutus *cortice* crassissimo, æquali, glabro, ex cinereo fuscescente. Ramuli teretes, graciles, viminei, nutantes, uti folia læves, nitidique. Folia opposita, oblonga, aliquandò subovato-oblonga, attenuato-acuminata, serrulata, dimidiâ inferiore parte nunc integerrima, basi acuta, coriacea, 5-pollicaria, utrinque lucida et reticulato-venulosa, axillis nervorum infrà acervulo albo villorum brevium munitis; juniora acutissimè et grossiusculè serrata, novella cum ramulis rubra. Petioli graciles, ½-pollicares, sulcati, nervique foliorum rufescentes. Corymbus terminalis, ovatus, ramosus, elongatione rami parùm pedunculatus, 4-pollicaris, pedunculis subcompressis, alternantibus, rufescentibus. Flores læves, racemulosi, sæpissimè hermaphroditi, insidentes pedicello clavato, brevi. Calyx coloratus, 5-partitus, laciniis lanceolatis, acutis. Petala 5, laciniis calycinis alternantia, iisdem vix longiora, cuneata, obtusa, obsoletè crenulata, venulosa, alba. Stamina 10, erecta, intra discum annularem, carnosum, undulatum, lutescentem, convexum inserta; *filamenta* brevia, subulata; *antheræ* erectæ, oblongæ. Ovarium ovatum, compressum, villosum, 2-loculare, 4-spermum, *ovulis* axi adfixis, transversalibus. Stylus carnosus, cylindricus, glaber, purpurascens, super stamina elevatus. Stigmata 2, acuta, parallela, demùm subrevoluta. Samaræ læves, pollicares, levitèr divergentes, *loculo* basis ovato, reticulatìm rugoso, *alâ* cultriformi, obtusâ, anticè parùm repandâ, basi angustatâ, dorso recto.

This noble forest tree grows to a gigantic size. Its timber is used by the inhabitants of Nipal for rafters, beams, and similar building purposes. It is of comparatively slow growth, the trees in the Botanic Garden at Calcutta, reared from seeds sent down from Nipal by Dr. Hamilton in 1802, being scarcely larger than those of *Acer oblongum*, which were introduced many years afterwards. This last species differs in having perfectly entire, glaucous, and opaque leaves, and by its less gigantic size.

Plate CIV. Fig. 1. Flower. 2. The same dissected. 3. 4. Ovary opened. 5. Cluster of fruit.

ACER STERCULIACEUM. Tab. 105.

Foliis cordatis, subtùs puberulis, 5-lobis, lobis ovatis, acuminatis, serratis, extimis brevissimis, integerrimis; racemis lateralibus; petalis lævibus, samaris . . . .

Crescit in monte Sheopore Napaliæ versus apicem; floret Aprili.

Arbor magna, umbrosa, trunco diametrum 3-pedalem emetiente, cortice sordidè griseo. Rami alternatìm compressi, cinerascentes, calloso-punctati, pilis paucis, longis, deciduis muniti; juniores cum petiolis rufescentes. Folia patentia, subrotundo-cordata, palmatìm

5-loba, lobis ovatis, acuminatis, grossiusculè serratis, extimis parvis, integerrimis; palmaria ad 10-pollicaria, sinûs basis levis lateribus obtusis, integerrimis; membranacea, nitida, subtùs 5-nervia, venosa, axillis nervorum villosis; juniora secus vasa villosula, adulta glabra. Petioli graciles, teretes, glabri, purpurascentes, limbi diametrum ferè æquantes. Flores *masculi* albi, villosuli, pedicellati, pauci dispositi in racemulos laterales, raros, laxos, nutantes, 2-pollicares, simplices. Pedunculus basi circumdatus *squamis* aliquot gemmaceis, villosis; *pedicelli* suffulti bracteolâ lineari, minutâ. Calycis *laciniæ* lanceolatæ, obtusæ, cum *petalis* subæquantibus alternantes. Stamina 5, 6, vel plura, glabra, inserta disco 5-lobo, glabro. Pistilli rudimentum nullum. Flores *fœminei* vel *hermaphroditi* haud visi.

Besides the two species just described, I am acquainted with the following four additional East Indian *Acera.*

A. oblongum, Wall. apud DeCand. in Prodr. Syst. Veg. 1. p. 593.

This Maple grows in the middle range of the mountains which confine the whole extent of Hindustan to the northward. It is common in Nipal; and I have likewise found it on the hills about Deyra Dhoon. In Kamaon, *R. Blinkworth.* In Sirmore, *Kamrup.*

A. caudatum, foliis cordatis, 5-lobis, subtùs pubescentibus, ad axillas nervorum venarumque villosis, ætate glabris, lobis ovatis, caudato-acuminatissimis, duplicato-serratis, serraturis cuspidatis; racemis glabris; fructûs alis divergentibus. *A. caudatum* et *pectinatum*, Wall. in Herbario Coetûs Amplissimi Mercatorum Anglicorum Indiæ Orientalis, 1824.

A native of the highest regions of Nipal towards Gossain Than. It has also been found in Sirmore by Dr. Govan: and at Kamaon and Srinaghur by R. Blinkworth. It ripens its fruit and begins to blossom in November. The specimens from Kamaon differ somewhat from the others in having less compound serratures, and in the fruit being larger; and this led me, at first, to consider them as two distinct species.

A. cultratum, foliis cordatis, 7-lobis, subtùs ad axillas nervorum villosis, cæterùm glabris, lobis caudato-acuminatis, integerrimis; corymbis pedunculatis, glabris; floribus subumbellatis, petalis cuneatis, fructûs alis divaricatissimis, semilunari-cultriformibus.—*A. cultratum*, Wall. in Herb. citato 1824.

A native of the regions towards the Himalaya, in Kamaon and Srinaghur, *Kamrup* and *Blinkworth.* It is a large tree, and appears to be allied to Thunberg's *A. pictum.*

A. villosum, foliis cordatis, 5-lobis, subtùs petiolisque villosis, lobis ovatis, acutis, remotè serratis, lateralibus integerrimis; racemis lateralibus, gemmis foliisque novellis sericeo-villosissimis; petalis apice barbatis, samaris villosulis, alis rectiusculis, cultriformibus, hinc crenulatis.—*A. villosum*, Wall. in Herb. citato 1824.

A native of high Alps, approaching towards those of perpetual snow in Sirmore and Kamaon; *Kamrup* and *Blinkworth.* Mr. Royle found the tree on the Choor mountain.

According to Blinkworth's account the tree is very large, and its fruit ripens in November, at which period the very fragrant flowers also begin to appear. *A. sterculiaceum*, described above, approaches very nearly to this species, but differs in being much smoother, which may perhaps be owing to its being found in a much less elevated situation.

Plate CV. Fig. 1. 2. Flower. 3. The same dissected.

CARPINUS VIMINEA. Tab. 106.

Foliis ovato-lanceolatis, longè acuminatis, duplicato-serratis, petiolis ramulisque glabris; bracteis fructiferis ovato-oblongis, basi incisis, apice subintegris, obtusiusculis.—*Lindl. MSS.*

Nomen Newarrense, *Chukissi;* Parbutteum, *Konikath.*

Crescit in montibus Napaliæ. In Sirmore legit *Dom. Webb*; in Kamaon, *Rob. Blinkworth.* Floret fructusque profert Januario—Aprili.

Arbor magna, elegans. Ramuli longi, gracillimi et viminei, laxè nutantes, fusci, glabri, calloso-punctulati, à morsura insecti cujusdam sæpè verrucosi tuberculis magnis, planis, resinoso-fuscis; *tenelli* villosi. Gemmæ oblongo-cylindricæ, imbricatæ, *squamis* oblongis, obtusis, striatis, sericeo-pilosis, ciliatis, unguicularibus. Folia bifariè alterna, patentia, approximata, 3—4-pollicaria, lanceolata, duplicato-dentata, dentibus latis, cuspidato-acutis, desinentia in acumen longissimum, lineare, serratum, basi obtusa leviterque inæqualia, nunc subretusa, suprà glabra, rugosula, juxta nervos lineata, subtùs costâ gracili nervisque oppositis, obliquis, parallelis, ad axillas villosis, sericeò et adpressè pilosa, ætate ferè glabra; *recentia* suprà pilosa, subtùs villis densis, longis, sericeo-fulgentibus, adpressis vestita. Petiolus gracilis, semiunguicularis. Stipulæ nullæ nisi squamæ gemmaceæ duæ, oppositæ, mox deciduæ, ad axillas petiolorum. Amenta *mascula* axillaria foliorum præteriti anni delapsorum, solitaria, subsessilia, cylindracea, sesquipollicaria, laxa, nutantia, sericeo-pilosula. Squamæ numerosæ, undique patentes, lanceolatæ, acuminatæ, concavæ, aridæ, membranaceæ, flavicantes, striatæ, dorso marginibusque villosæ, lineas 4 longæ; aliquot ad basin amenti subconfertæ, obtusæ, vacuæ. Rachis filiformis, flexuosa, pilosa. Calyx Corollaque nulli. Filamenta capillaria, 12—16-fasciculata, glabra, bracteis multò breviora. Antheræ magnæ, ovatæ, obtusæ, lateribus supernè apiceque villis longis, canis barbatæ, biloculares; *locula* distincta, parallela. Amenta *fœminea* solitaria, terminalia, masculis breviora et graciliora,

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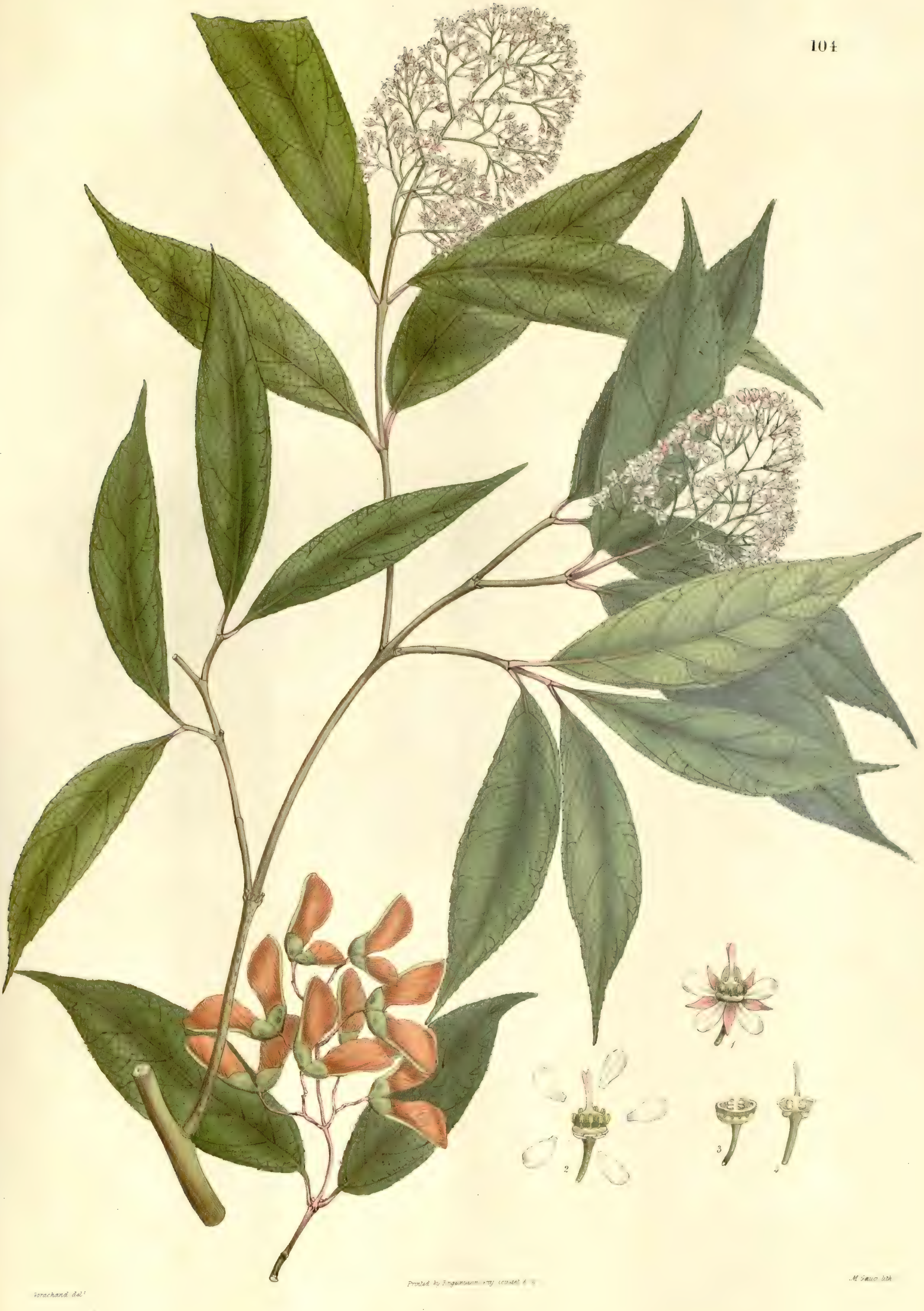
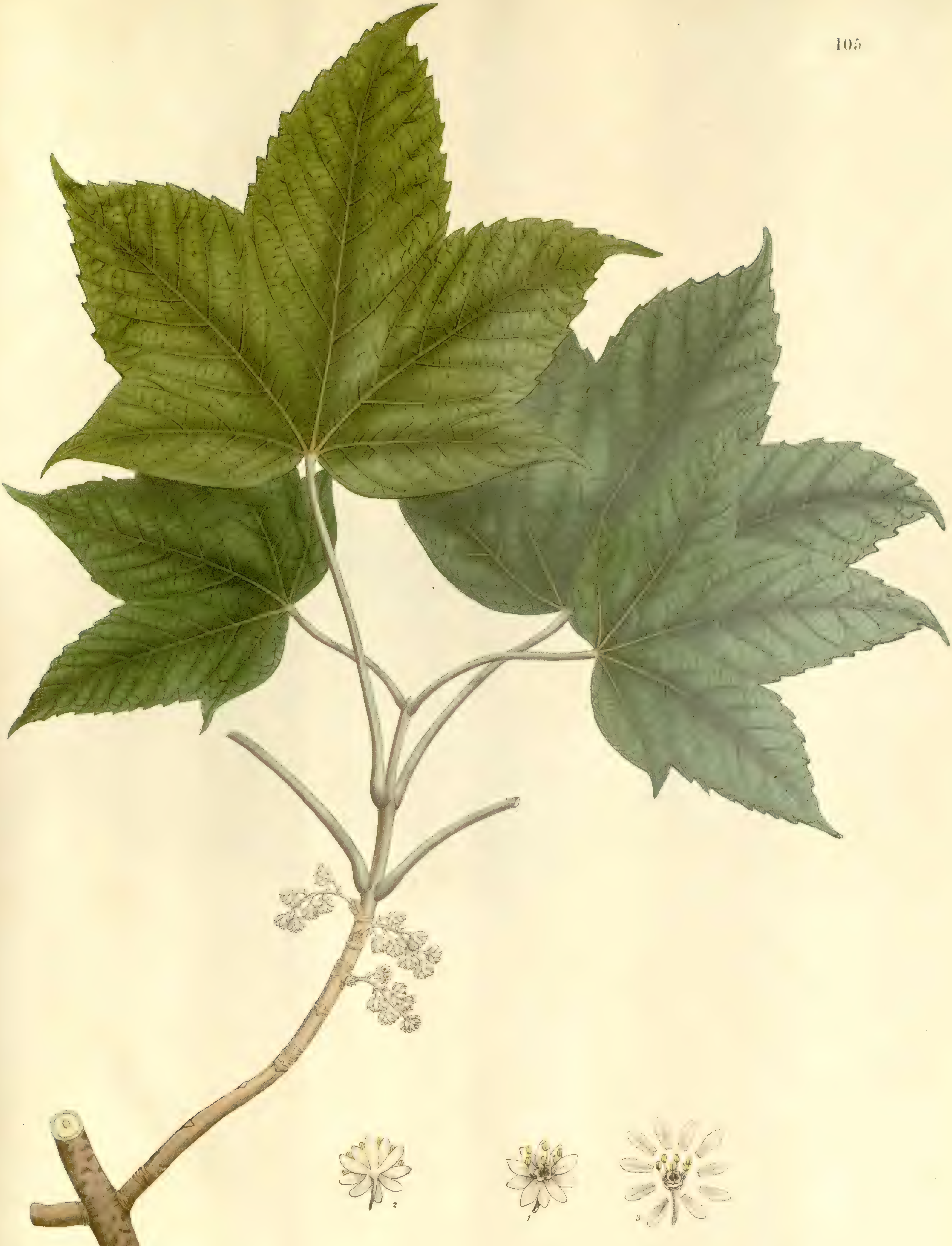


Gorachand del.

Printed by Engelmann Graf Coindet & Co.

M. Gauci lith.

Acer lævigatum.



Acer sterculiaceum

Gorachand del.

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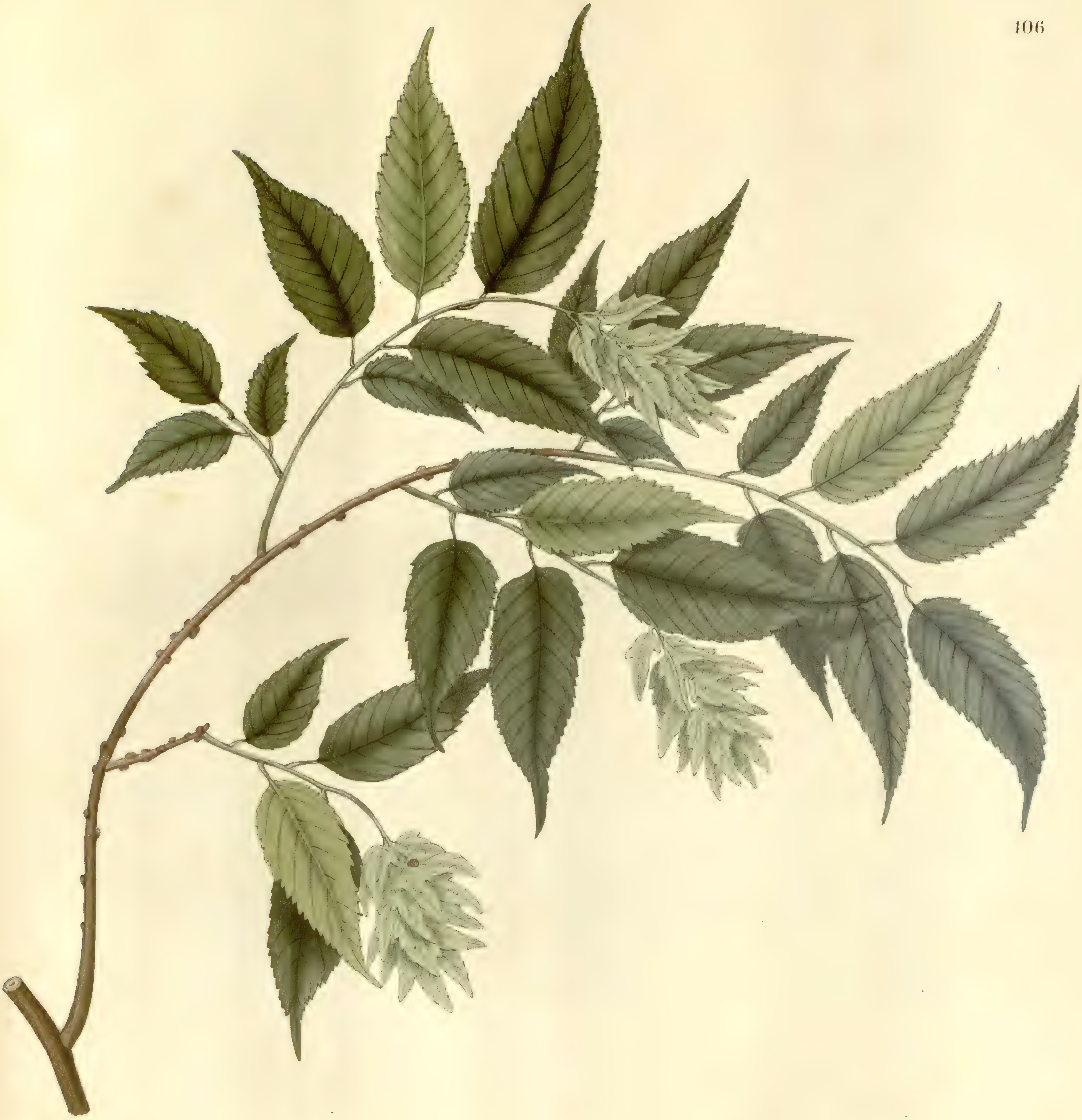

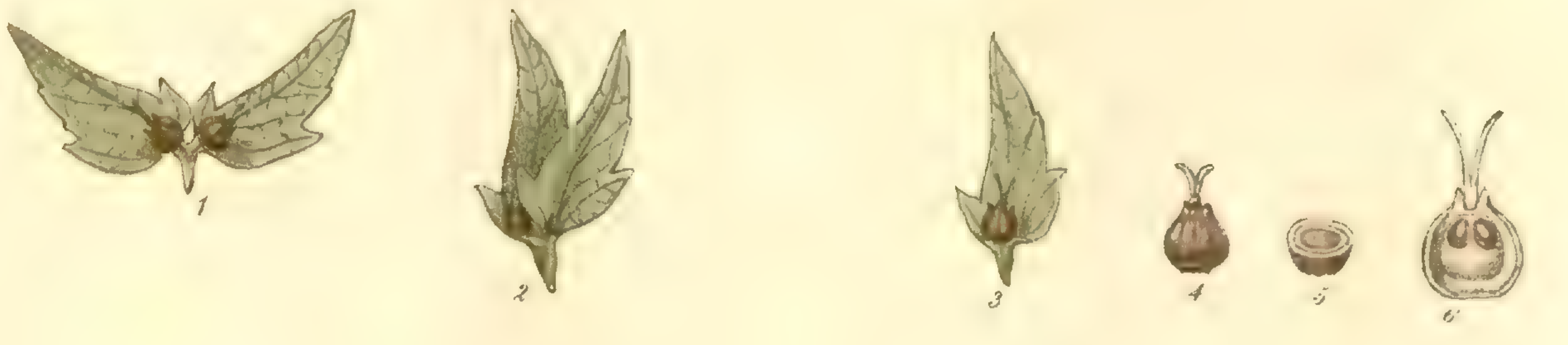

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Carpinus viminea

subpedunculata, sericeo-villosa. Squamæ subpatentes, lanceolatæ, valdè acuminatæ, singulæ foventes pistilla duo. Ovarium minutum, villosum, ovatum, insidens et quasi adnatum *squamulæ* lanceolatæ, longè barbatæ, obsoletè glanduloso-dentatæ, eâque multò brevius. Styli 2, capillacei, puberuli, subparalleli, squamis exterioribus parùm breviores. Stigmata minuta, acuta, exserta. Amentum *fructuum* laxum, 3-pollicare, nutans, suffultum *pedunculo* gracili, subclavato unà cum rachi pilosula. Squamæ patentiusculæ, foliaceæ, pallidè virides, nervoso-venosæ, glabriusculæ, lanceolatæ, acutæ, concavæ, hinc subrectilineæ basique 1-dentatæ, indè inæqualitèr denticulatæ, ferè pollicares, geminatæ et subsessiles in *pedicello* communi erecto, piloso. Nux solitaria ad basin concavam squamæ, ovata, convexa, costata, fusca, punctis elevatis, subresinosis supernè notata, coronata dentibus calycinis sæpissimèque stylis diutiùs persistentibus, 1-locularis, 2-sperma.

This fine tree is very like the common Alder. Its wood is considered durable, and is used for ordinary building purposes by the natives of Nipal. The slender pendulous branches are frequently attacked by a sort of Coccus, which produce numerous elevated tubercles or warts. The structure of the nut resembles that of *Carpinus Betulus*, as described and figured by the incomparable Gærtner, except in the following respect. The cavity is filled with what appears to me an entire and homogeneous, fleshy, almost colourless substance, exceedingly like a perisperm; in which are suspended, towards the apex of the seed, two minute embryones. It is possible that, notwithstanding the most careful and repeated examination, I may have mistaken the cotyledons of the ripe seed for a perisperm; but I have invariably seen two minute embryones lodged within the upper end of the fleshy substance which fills the nut.

I am indebted to Professor Lindley for the specific character given above, and also for that of the following species, which was sent to me from Gurwal by Kamrup:

Carpinus faginea, foliis ovato-oblongis, acutis, argutè serratis, glabris, petiolis ramulisque pubescentibus; bracteis fructiferis subrhombeis, grossè dentatis, acutis, reticulatis. *C. orientali* accedit; differt foliorum formâ et margine, nec non bracteis diversissimis.—*Lindl. MSS.*

Plate CVI. Fig. 1. 2. 3. Scales with fruit. 4. Detached nut. 5. The same divided horizontally. 6. The same divided longitudinally.

CASTANEA MARTABANICA. Tab. 107.

Foliis lanceolato-oblongis, acuminatis, integerrimis, lævissimis, breviusculè petiolatis, basi acutis, subtùs argenteis; amentis pubescentibus, densissimè armatis spinis palmato-ramosis, divaricatis.

Crescit ad Amherst in provincia Martabaniæ. Fructus maturi Februario.

Arbor procera, cortice nigricante, rimoso. Rami cylindrici, calloso-punctulati; *ramuli* teretes, graciles, fusci, nitidi, uti folia glaberrimi. Folia approximata, alterna, patentia, oblongo-lanceolata, acuminata, integerrima, basi acuta, coriacea, 4—5-pollicaria, suprà saturatè viridia, lucida, subtùs subargenteò-pallida, siccitate dilutè ferruginea, costâ gracili, prominente, nervisque obliquis, numerosis. Petioli graciles, ½-pollicares, suprà sulcati. Stipulæ axillares, oppositæ, lineares, acutæ, erectæ et parallelæ, caducissimæ. Inflorescentia haud visa. Fructus globosi, spinosissimi, magnitudine *Castaneæ vescæ*, aliquot parvis, abortivis plerumque intermixti, sessiles, densè congesti in *spicam* cylindricam, simplicem, terminalem ramulorum nudorum, digitum circiter longam. Rachis cylindrica, demùm cicatricibus crebris, elevatis notata. Involucrum clausum, fuscum, coriaceum, extùs cano-pubescens, armatum spinis numerosissimis, magnis, palmato-ramosis, divaricatis, rigidissimis, pubescentibus, subulatis, mucrone fusco acutissimis, intùs sericeo-villosum. Semen sæpissimè unicum, irregularitèr globosum, mucronatum, coloris fusci, pilis fulgentibus, sericeis, adpressis.

I have only observed this fine large species of Chestnut in the immediate neighbourhood of Amherst. It was covered with a profusion of fruit in the month of February. The seeds have an astringent taste.

Professor Lindley thinks that there is no difference between *C. argentea* of Dr. Blume's superb *Flora Javæ* and my tree, except that the former is depicted with weak spines, a circumstance no doubt due to the fruit, which was described as having been unripe. I venture to differ in this respect from my highly respected friend. Dr. Blume's tree appears to me to differ in the following points. Its leaves are more acuminate at the apex, and sharper at the base, and their petioles longer; the fruit is smaller, and its spines much shorter and less compound. Besides, the locality seems to indicate a diversity: the Java tree grows on mountains; whereas mine occupies low ground, on the sea-shore of Martaban.

I subjoin a synoptical view of the *Indian Castaneæ*, by Professor Lindley:—

C. indica, foliis oblongis, acutis, simplicitèr serratis, subtùs tomentosis, reticulatis; spinis fructûs subulatis, fasciculatis, intertextis. *C. indica*, Roxb. MSS. Ejusd. Hort. Beng. p. 68.—*Lindl. MSS.*

Montes Napaliæ, 1821. Montes Sillet, *F. De Silva*; Chittagong, *H. Bruce*.

C. sphærocarpa, foliis ovato-lanceolatis, acuminatis, integerrimis, glabris, spicis masculis brevioribus; spinis fructûs

brevibus, distantibus, palmato-partitis. *Quercus armata*, Roxb. MSS. et Ic. pict. Valdè similis *Q. fenestratæ* Roxb., quæ tamen legitima *Querci* species.—*Lindl. MSS.*

Montes Sillet propinqui, *Roxb.*

C. Roxburghii, foliis ovalibus, utrinque acutis, integerrimis, glabris; fructûs sphærici spinis subulatis, fasciculatis intertextis. *Quercus castanicarpa*, Roxb. MSS. et Ic. pict. Ejusd. Hort. Beng. 68. Spreng. Syst. Veg. 3. p. 856. Folia teste Roxburghio sæpiùs pedalia, pollices 4 vel 5 lata.—*Lindl. MSS.*

Chittagong, *Roxb.*

C. Tribuloides, foliis ovato-lanceolatis, lanceolatisve, acuminatis, integerrimis, glabris; fructûs ovati spinis multifidis, subulatis, distantibus. *Quercus Tribuloides*, Smith in Cyclop. Reesiana, in loco. *Q. ferox*, Roxb. MSS. et Ic. pict. Ejusd. Hort. Beng. p. 68. Valdè affinis *C. sphærocarpæ;* differens fructibus minoribus, magìs ovatis, spinisque longioribus, plùs quàm in illa intertextis.—*Lindl. MSS.*

Montes Napaliæ, 1821; Sillet, *F. De Silva.*

C. martabanica, suprà descripta.

C. Tangurut, foliis ovato-oblongis, subtùs, petiolis ramulisque pubescentibus; fructûs sphærici spinis è basi lata subulatis, simplicibus, brevibus, rigidissimis. *C. Tungurut*, Blume Bydr. et Fl. Javan.—*Lindl. MSS.*

Montes Penang, 1822.

C. javanica, Blume in locis citat.

Montes Javæ, ex Blumio.

C. inermis, foliis oblongo-lanceolatis, undulatis, acutis, integerrimis, glabris; fructibus subdidymis, inermibus, fasciatìm interruptè tuberculatis—*Lindl. MSS.*

Habitatio valdè dubia. Singapore 1822?

Plate CVII. Fig. 1. Fruit divided transversely. 2. The same divided longitudinally. 3. A detached spine of the fruit. 4. Nut. 5. The same, with the outer skin partly detached. 6. Umbilical chord, with a suspended abortive ovulum.

EUGENIA FORMOSA. Tab. 108.

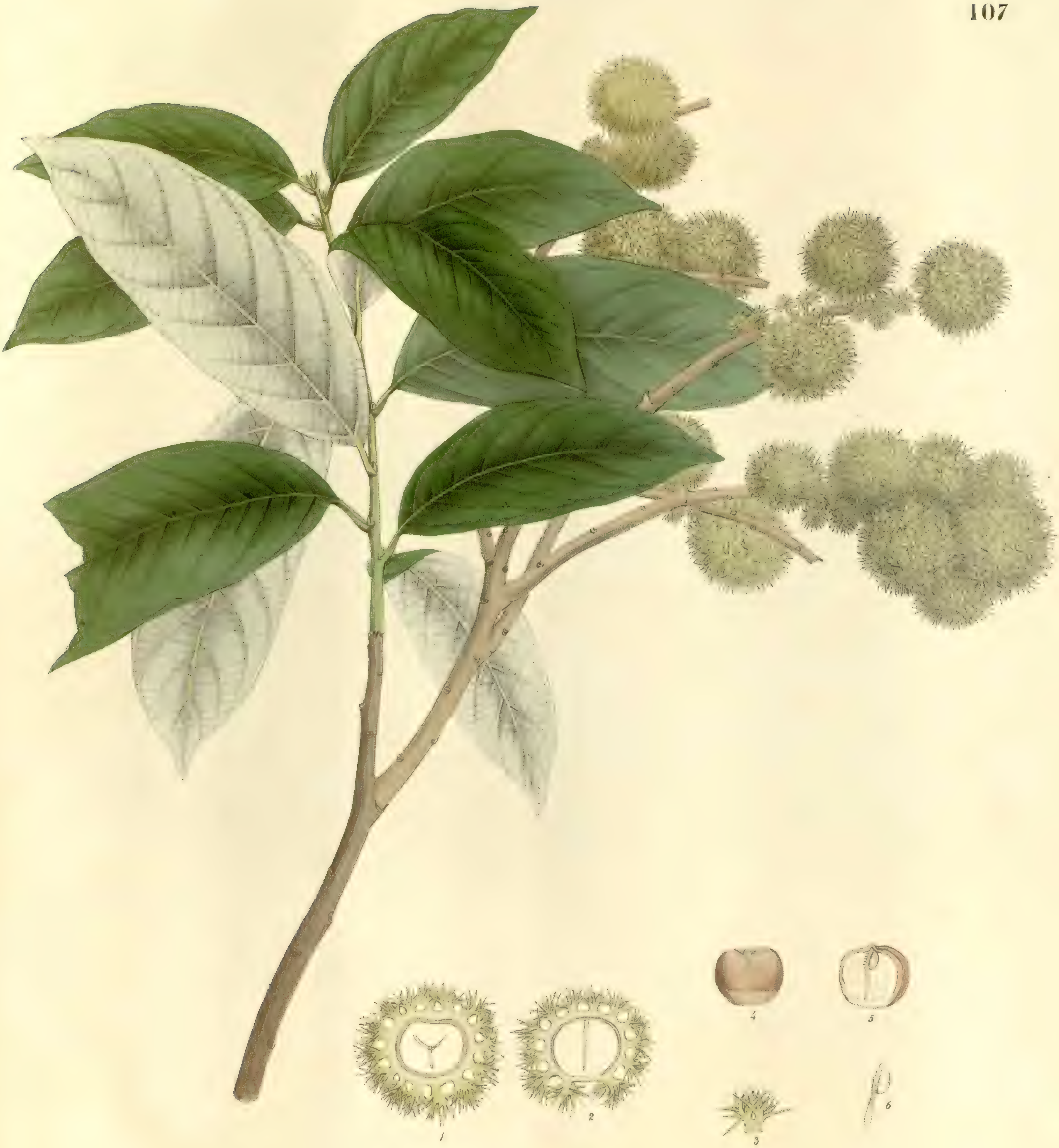
Foliis elliptico-oblongis, subacuminatis, sessilibus, cordatis, amplexantibus; racemis axillaribus (foliorum delapsorum) sessilibus, brevibus; pedicellis clavatis, elongatis; floribus lævibus, staminibus longissimis; baccis globosis, pendulis.

Crescit ad Moalmyne, et ad bases rupium ripæ Attran in Martabania, flores fructusque proferens mense Martii.

Arbor valdè procera, latè ramosa. Rami cortice molli, cinereo induti, à lapsu foliorum cicatricibus magnis notati; *ramuli* alternatìm compressiusculi, nunc triangulares, uti folia floresque glaberrimi. Folia opposita, patentissima, ad apicem ramulorum valdè approximata, aliquandò ternata, sessilia, elliptico-oblonga, nunc elongato-oblonga, subacuminata, integerrima, deorsùm interdùm parùm contracta, basi plùs minùsve obliquè cordatâ amplexantia, lobis rotundatis, brevibus; palmaria ad pedalia, quin sesquipedalia, valdè coriacea, suprà lucida, subtùs opaca et pallida, nervis frequentibus, parallelis, prominentibus, venâ intramarginali, anastomosante magnâ, costâ ad basin valdè crassâ, vix in *petiolum* perquàm brevem productâ. Flores magni, dum inaperti purpurei, posteà rubicundi, inodori, pauci dispositi in *racemos* breves, simplices, sessiles, nudos, solitarios, infra folia sublaterales. Pedunculi carnosi, læves: *communis* brevissimus; *partiales* clavati, pollicares, medio articulati, bracteolisque 2 minutis, lanceolatis, oppositis instructi. Calycis lobi patentissimi, orbiculati, subretusi. Petala 4, orbiculata, unguicularia, lobis calycinis duplò majora. Stamina perquàm numerosa, undique patentia, longissima; *filamenta* filiformia, pollicaria, alba; *antheræ* luteolæ, parvæ. Ovarium turbinatum; *stylus* brevis, attenuatus; *stigma* acutum. Bacca magnitudine juglandis, pendula, globosa, lævis, nitida, calycis lobis, sæpèque stylo persistente coronata, alba, 2-locularis; *caro* omninò insipida. Semina grandia, rugosa, viridiuscula.

This is by far the largest species of *Eugenia* which I have met with in the Burmese territories. It is a lofty tree, with ample shining coriaceous leaves, and numerous large pink flowers, disposed in lateral, short, and sessile racemes, which are produced from the vestiges of the fallen leaves. The fruit is perfectly insipid.

Plate CVIII. Fig. 1. Ripe berry. 2. The same divided horizontally. 3. A seed.



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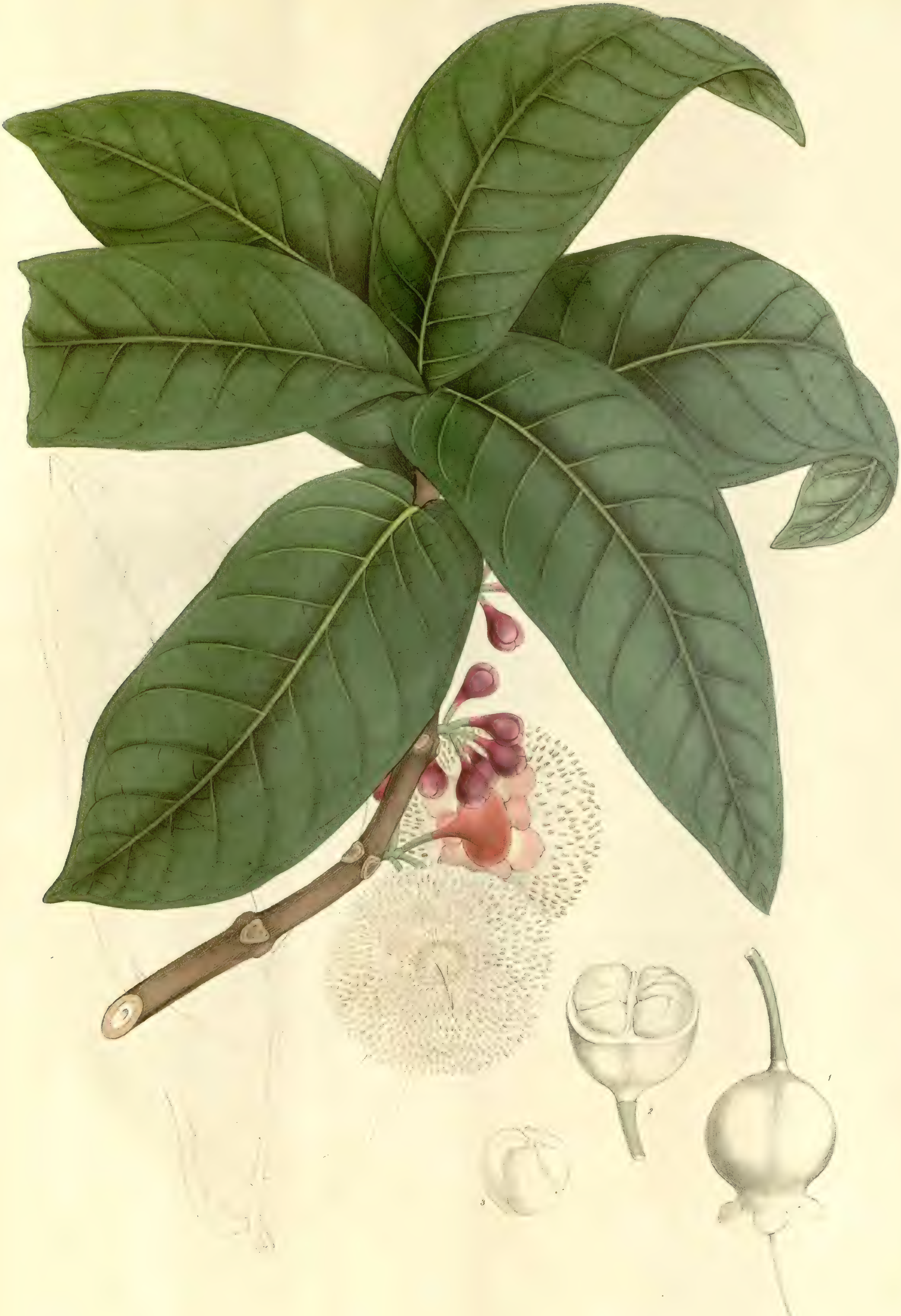
Cástanea martabanica



Eugenia formosa

BETULA ACUMINATA. Tab. 109.

Foliis ovato-lanceolatis, subsimplicitèr cuspidato-serratis, acuminatis, glabris, subtùs punctatis, petiolis ramulisque glaberrimis; amentis fructiferis pendulis, longissimis, cylindraceis, aggregatis, rachi bracteisque basi auriculatis pubescentibus.—*Lindl. MSS.*

Nomen Newarrense, *Ootees.*

Crescit in montibus pluribus Napaliæ, et in ipsa convalli magna, secus fluminum ripas. Flores fructusque profert mensibus Decembris—Aprilis. E montibus Sillet confinibus, *H. Bruce.*

Arbor procera, pulcherrima, valdè umbrosa et frondosa, e basi usque ramosa. Rami cylindrici, fusci, calloso-punctati, læves; juniores pubescentes. Folia alterna, patentia, ovata, oblongo-ovata, vel lanceolata, inæqualitèr et grossiusculè serrata, serraturis latis, incurvis, cuspidatis; attenuato-acuminata, basi subintegerrimâ nunc inæquali rotundata vel acutiuscula, 3—7-pollicaria, suprà lucida, lævia, lætè viridia, subtùs nervoso-venosa, reticulata, asperula propter puncta copiosa, minuta, elevata, resinosa, vix pubescentia; *juniora* rufescentia, utrinque juxta costam nervosque cano-villosa, subtùs valdè resinosa, dentibus longè et subglanduloso-cuspidatis; vetusta ferè omninò glabra, subcoriacea. Petioli pollicares, levitèr sulcati, glanduloso-punctati, minutìm paleacei, *juniores* villosi. Stipulæ gemmaceæ, oppositæ, erectæ, lanceolatæ, acuminatæ, unguiculares, deciduæ, dorso concaviusculæ et pubescentes, marginibus ciliatæ, intùs læves. Amenta gracilia, cylindrica, pendula, rachibus filiformibus, villosis; *mascula* ad apicem ramulorum novellorum fasciculata, sessilia, 5—6-pollicaria, squamis ciliatis, antheris magnis, lævibus; *fœminea* masculis breviora gracilioraque, pedunculata, 3—4-subracemosa, albicantia, villosula. Squamæ parvæ, crassiusculæ, trifloræ, pubescentes, ciliatæ, patentes, hastato-trilobæ; *lobus intermedius* lanceolatus, acutus, *laterales* breves, ovati, obtusi. Ovarium lentiforme, pubescens, cinctum membranâ reniformi, retusâ, crenatâ, ciliatâ. Styli duo, villosuli, divergentes. Fructus lævis, cinctus alâ reniformi, retusâ.

This fine tree grows in many places of Nipal, both in the great valley and on the surrounding mountains. It attains from fifty to sixty feet in height, and is of an oval shape, being branchy from the very base. The wood is greatly esteemed by the inhabitants, and is employed for all sorts of purposes where strength and durability are required. Prof. Lindley is of opinion that the specimens from the mountains bordering on Sillet differ in no respect from the others, except in the leaves being somewhat tougher or harder, and he thinks that *B. alnoides*, (Don Prodr. Nepal. p. 58,) refers to this variety. I am indebted to that esteemed friend for the essential characters of the three following species of *Betula.*

B. cylindrostachya, foliis oblongis, acuminatis, cordatis, argutè duplicato-serratis, ramulis petiolis venisque subtùs tomentosis; amentis fructiferis pendulis, longissimis, cylindraceis; fructibus altè bilobis, bracteis lineari-lanceolatis, obtusis, membranaceis, basi bidentatis, ciliatis majoribus. *B. cylindrostachya*, Wall. in Herb. Coet. Ampl. Merc. Angl. Ind. Or. 1824. *B. acuminatæ* Wall. affinis sed distinctissima.—*Lindl. MSS.*

Kamaon, *R. Colquhoun*, Baronetus; *R. Blinkworth.*

B. nitida, foliis oblongis, acuminatis, argutè duplicato-serratis, ramulis petiolisque pilosis; amentis fructiferis pendulis, cylindraceis, aggregatis, bracteis trilobis, pilosis: lobo medio producto, fructibus longiore. *B. nitida*, Don Prodr. Nepal. 58. *B. cylindrostachya*, Wall. in Herb. cit. Omninò inter *B. acuminatam* et *B. cylindrostachyam* media, huic foliis, illi fructu accedens, ab utraque characteribus datis distinguenda.—*Lindl. MSS.*

Kamaon, *Blinkworth.*

B. Bhojpattra, foliis oblongis, acutis, subsimplicitèr serratis, basi subcordatis, petiolis ramulis venisque subtùs pilosis; amentis fructiferis erectis, cylindraceis, oblongis; bracteis glabris, lignosis, bipartitis, obtusis, fructibus angustè alatis multò longioribus. *B. Bhojpattra*, Wall. in Herb. cit. *B. utilis*, Don. loc. cit. Folia nunc simplicitèr nunc duplicatò serrata in eodem ramo; amenta fructifera aliquandò parùm elongata.—*Lindl. MSS.*

Alpes Gurwal et Kamaon, *Dominus Webb*, *Kamrup* et *Blinkworth.*

The epidermis of this species of Birch is used by the mountaineers instead of paper for writing upon. It is of a very delicate texture, and peels off in large masses, of which great quantities are brought down into the plains of Hindustan, where it is employed for covering the inside of the long flexible tubes of the apparatus used for smoking tobacco, commonly called Hooka. The Sanscrita name of the substance is *Bhoorja;* in the Bengali language, *Bhoorjapattra;* and in the Hindustani, *Bhojpattra.* My worthy friend Mr. Graves Haughton, Oriental Examiner to the Honourable East India Company, to whom I am indebted for the above synonyms, is of opinion that the word *Bhoorja* is the etymon of Birch, and that it is one of the many proofs of the descent of the Saxon part of the English language from the Sanscrita.

Plate CIX. Fig. 1. Female floret. 2. Scale detached. 3. Fruit.

URARIA CRINITA, *var.* MACROSTACHYA. Tab. 110.

Racemis maximis, folio duplò longioribus ; pinnis 3—4-jugis, concoloribus.

Habitat in China, *Dom. Reeves* ; prope Sillet in Bengalia, *F. De Silva*. Ipse observavi ad Amherst in Martabania. Ad Tavoy, *Gomes*. In Horto Botanico Calcuttæ floret et fructus profert mensibus Octobris et Novembris.

Frutex 2-pedalis, parcè ramosus ; spicifer 4-pedalis. Rami crassi, cylindrici, ferè simplices, subflexuosi, petiolique obsiti pube molli, canescente, patente, hamulosâ. Folia patentia, alterna, pedalia vel longiora, pinnata, 3—4-juga. Pinnæ exactè oppositæ, oblongæ, acutæ basi hinc rotundiore obtusæ, subsessiles, 5-pollicares, coriaceæ, suprà uniformitèr saturatè virides, secùs vasorum tractus levitèr puberulæ, cæterùm glabræ, nitidæ, subtùs copiosè pubescentes, incanæ, costâ nervisque obliquis gracillimis, venis transversè reticulatis, prominentibus ; exteriores parùm minores, terminalis proximis major. Petiolus *communis* 4—6-pollicaris, cylindricus, suprà planiusculus, basi intumescens, desinens in *rachin* rectam, pubescentem, noduloso-articulatam ; *partiales* brevissimi, cylindrici, crassiusculi. Stipulæ magnæ, ferè pollicares, triangulari-lanceolatæ, erectæ, aridæ, striato-nervosæ, pilosæ et ciliatæ, deciduæ, e basi lata et obliqua attenuatæ in acumen longissimum, setaceum ; *stipellæ* majusculæ, lineari-lanceolatæ, persistentes, acuminatæ. Racemus maximus, terminalis, sessilis, cylindraceo-subclavatus, obtusus, densiflorus, pedalis, 2-pedalis, quin longior, pollicem et dimidium ad duos crassus ; fructifer gracilior ; pilis longis, mollissimis abundè barbatus, solitarius, vel uno duobusve brevioribus lateralitèr stipatus ; ante florum expansionem densissimè et adpressè bracteatus, strobiliformis. Flores magni, purpurei, densissimi, geminati, patentes. Bracteæ magnæ, lanceolatæ, membranaceæ, caudato-acuminatæ, pilis longis ciliatæ, dilutè roseæ, caducæ ; ad apicem racemi seriùs deciduæ, sæpè floribus vacuæ. Rachis cylindrica, subcarnosa. Pedicelli filiformes, barbati, patentissimi, apice articulatâ incurvi. Calyx urceolatus, bilabiatus, profundè divisus in *lacinias* 5, setaceo-acuminatissimas, barbatas. Corollæ *vexillum* rectè adscendens, ovatum, acutum, planum, atropurpureum, basi notatum maculis binis, oblongis, parallelis, e viridi flavis ; *carina alæ*que pallidæ, obtusæ, longitudine subæquales. Stamina 10, diadelpha ; apices filamentorum alternatìm paullò crassiores et breviores. Legumen spiralitèr contortum, atrum, calyce parùm longius, pedicello valdè incurvo suffultum ; articuli lenticulares, 5 vel 6, puberuli.

When I first received this stately plant from China, whence it was introduced into the Botanic Garden at Calcutta by Mr. John Reeves, I thought it was specifically distinct from *Uraria crinita* of Desvau. On comparing it, however, with the plants brought from other parts of India, I have come to the conclusion that it is only a variety of that species. In general stature it is a shorter plant; but the leaves are much larger, and the spike far longer and thicker. The leaflets are generally clouded in the centre in *U. crinita*, in our plant they are uniformly green. The variety grows also at Sillet, and I have found it at Amherst in Martaban. W. Gomez brought me specimens from Tavoy.

It is requested that the name on the plate may be altered to *U. crinita*, var. *macrostachya*.

Plate CX. Fig. 1 & 2. Flower. 3. The same dissected. 4. Part of a fruit-bearing raceme. 5. A ripe pod.

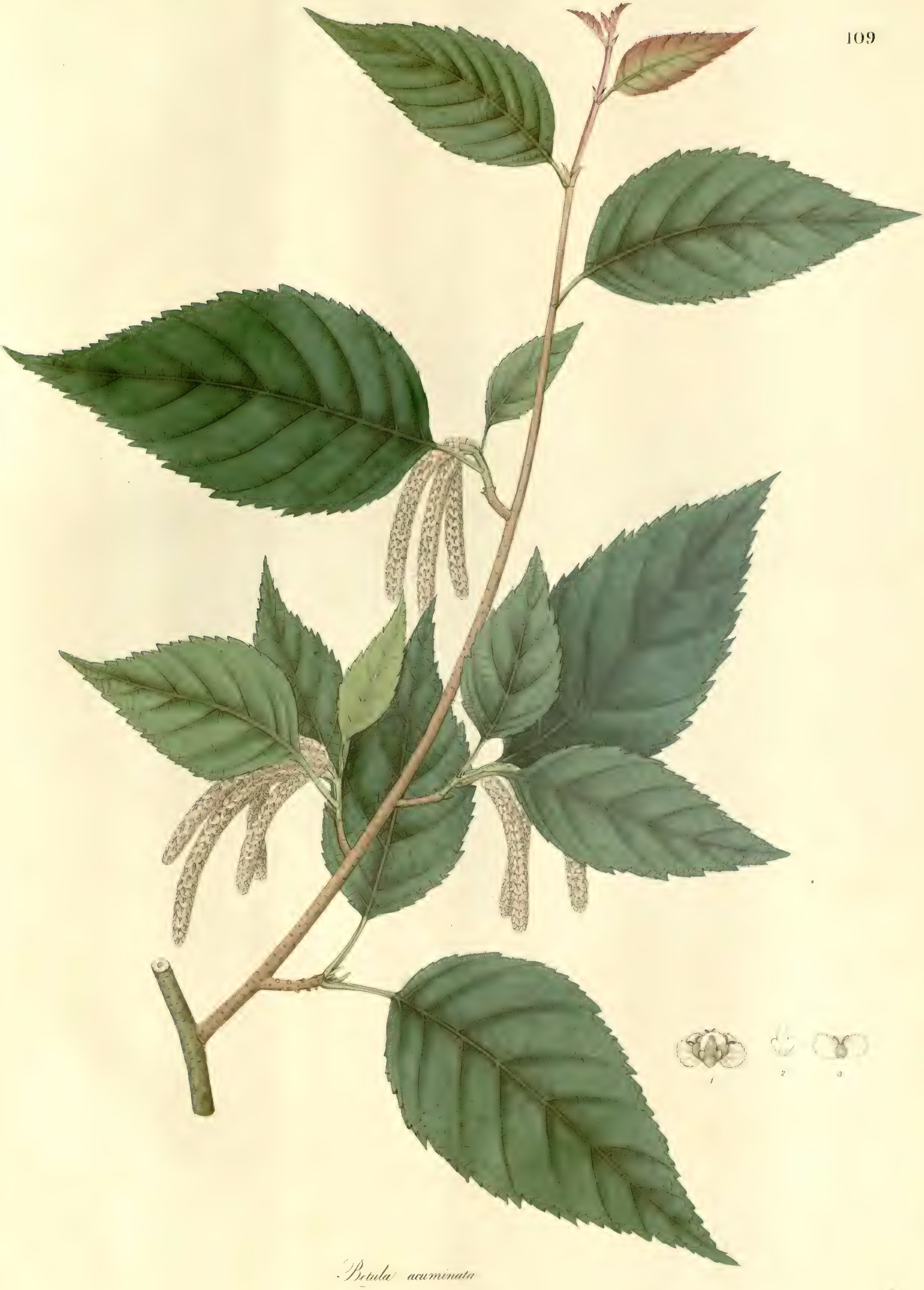
LEUCOMERIS SPECTABILIS. Tab. 111.

Leucomeris spectabilis, Don. Prodr. Nepal. p. 169.
Eupatorium candicans, Wall. in Herb. Coet. Ampl. Merc. Angl. Ind. Or. 1824.
Nomen Newarrense, *Bhoea ;* Parbutteum, *Phusrae.*
Crescit in monte Sheopore Napaliæ. Ad Srinaghur legit *Kamrup*. Floret mense Aprilis.

Arbor 12—20-pedalis, erecta, ramosa, cortice griseo, glabro. Ramuli crassi, obtusè angulati, sulcati, supernè, uti omnes partes recentes, tomento niveo, molli densissimè vestiti. Folia approximata, sparsa, patentia, brevè petiolata, elliptica, utrinque acuta, deorsùm attenuata, integerrima, coriacea, palmaria, pedalia usque ad 15-pollicaria, suprà saturatè viridia, rugosula, nitida, subtùs niveo-candicantia, costâ nervisque alternantibus elevatis. Petioli crassi, semicylindrici, pollicares, tomentosi, ætate nudi, basi intumescentes et subarticulati. Stipulæ nullæ. Corymbus terminalis, magnus, ovatus, subfastigiatus, ramosissimus, niveo-tomentosus, *foliis floralibus* lineari-lanceolatis, parvis, frequentibus munitus. Pedunculi *communes* elongati, inferiores axillares foliorum supremorum ; *partiales* ramosi, *squamis* parvis, vagis, subalternantibus, lanceolatis. Flores albi, admodùm odorati, cylindrici, copiosissimi, fasciculati, brevè pedicellati, pollicares. Involucrum cylindrico-oblongum, constans foliolis lanceolatis, imbricantibus, acutis, pallidè viridibus, vix ciliatis, inferioribus sensìm minoribus, in squamulas pedicelli vagas demùm conversis. Receptaculum parvum, nudum. Corollulæ sæpiùs 5, tubulosæ, albæ, glabræ, involucro duplò longiores, subfastigiatæ ; *tubus* gracilis ; *laciniæ* lineares, tubum ferè æquantes, revolutæ. Filamenta capillaria ; *antheræ* lineares, albæ, basi in aristas duas capillares, parallelas, puberulas desinentes, connatæ in tubum rectum, exsertum, limbum subæquantem. Ovarium oblongum, sericeo-villosum, coronatum *pappo* copioso, pallidissimè ferrugineo, simplici, scabriusculo, corollâ parùm breviore. Stylus filiformis, glaber. Stigma bilobum, lobis obtusis, parallelis, vix exsertis.

This beautiful tree grows to my knowledge only on one spot near Thoka, on Mount Sheopore in Nipal, where I saw it in great perfection and in full flower in April 1821. I have also received it from Srinaghur in Gurwal, where it was found by Kamrup.

Plate CXI. Fig. 1. Flower. 2. Receptacle. 3. Floret. 4. The same opened. 5. Tube of anthers opened.



Betula acuminata

orachand del.

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Uraria macrostachya

Printed by Engelmann Graf Coindet & Co

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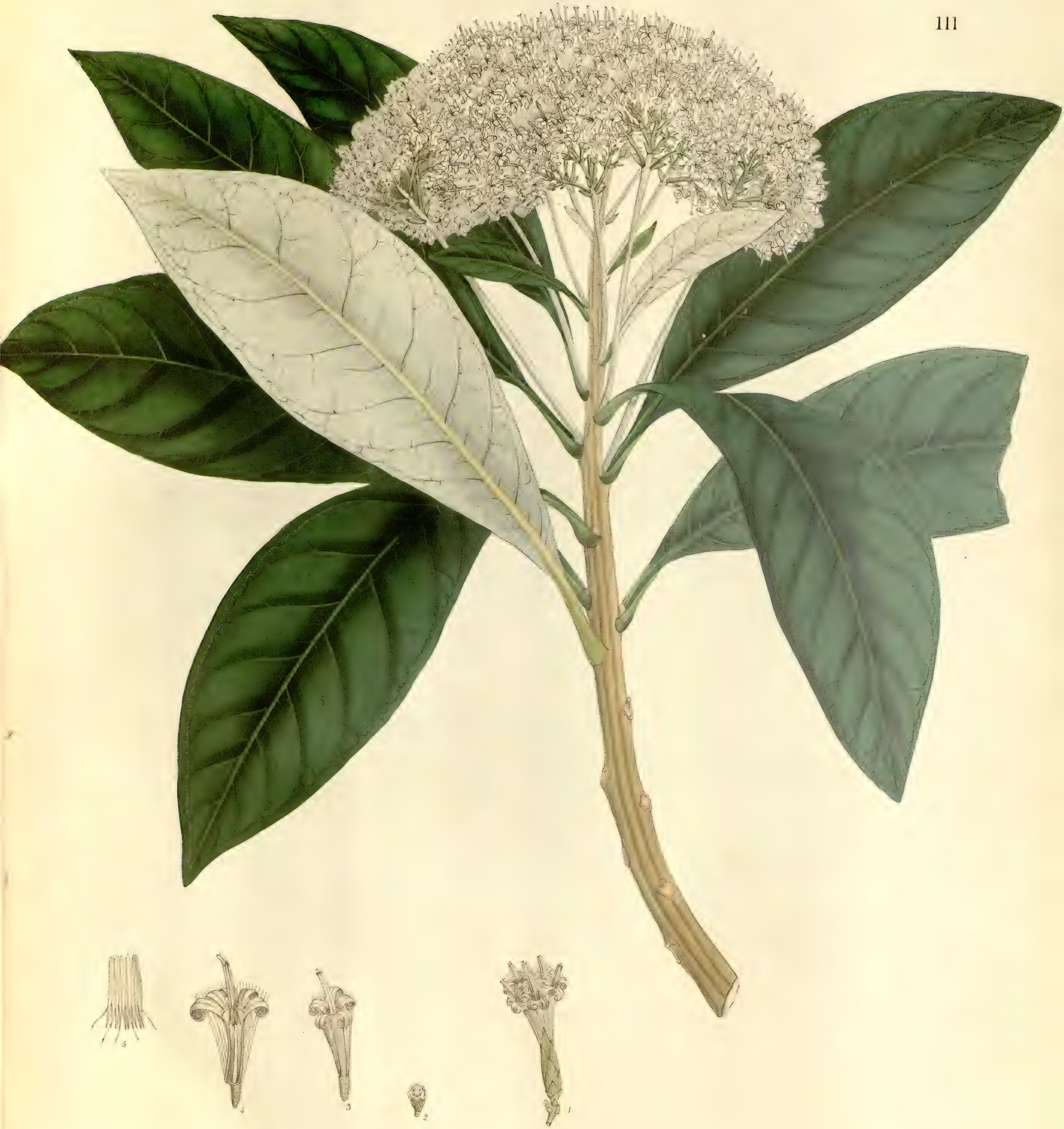

Leucomeris spectabilis

JUSTICIA CURVIFLORA. Tab. 112.

Fruticosa, erecta, ramosa; foliis magnis, ellipticis, utrinque attenuatis, petiolatis, glabris; racemo terminali, oblongo, attenuato, foliis breviore, pilis hyalinis, articulatis densè villoso; fasciculis oppositis, pedunculatis, 3-floris; bracteis lobisque calycis longiusculis, linearibus; tubo corollæ clavato-cylindrico, longissimo, limbo brevi, bilabiato, 5-fido, lobis lanceolatis; antheris oblongis, exsertis, demùm levitèr divergentibus, loculis æqualibus, parallelis; capsulâ sessili, clavato-tetragonâ, glabrâ, oligospermâ.

Nomen Bengalense, *Bhagbut*.

Crescit in montosis Sillet propinquis, indèque a De Silva in Hortum Calcuttensem missa. Floret fructificatque versus finem anni.

Frutex erectus, ramosus, 4—6-pedalis. Rami superiores obsoletè 4-angulares, ferè cylindrici, supra insertionem foliorum ventricoso-intumescentes; juniores fuscescentes, villosuli. Folia ampla, opposita, approximata, ferè decussatìm patentia, petiolata, elliptica, acuminata, integerrima, vel obsoletissimè crenulata, glabra, basi attenuato-acuminata, 6—10-pollicaria, quin pedalia, firma et subcoriacea, suprà nitida, saturatè viridia, costâ nervisque subtùs prominentibus, vix pubescentibus; *floralia* plura, per totam ferè racemi longitudinem sparsa, subsessilia, angusto-lanceolata, acuta, sesquipollicaria, floribus breviora, utrinque pubescentia. Petiolus bipollicaris, cylindricus, suprà vix planiusculus. Racemus speciosus, terminalis, sessilis, erectus, oblongus, attenuatus, 6—10-pollicaris, densè obsitus pilis pallidè ferrugineis, subhyalinis, mollibus, articulatis, patentibus, brevibus. Flores ex flavo rubicundi, ternato-fasciculati, pedunculati, oppositi, bipollicares, tubulosi, patentes. Pedunculus *communis* rectus, levitèr tetragonus, villosus; *partiales pedicellique* teretes, ½-unguiculares; *bracteæ* oppositæ, lineares, acuminatæ, villosæ. Calyx ovatus, villosus; *laciniæ* 5, æquales, lineares, acuminatæ, erectiusculæ. Corollæ *tubus* bipollicaris, cylindrico-clavatus, parùm compressus, levitèr curvus, extùs densè villosus, intùs pubescens; *limbus* tubo ferè quinquiès brevior, bilabiatus: *labium superius* adscendens, lobis lanceolatis, obtusis; *inferius* patens, 3-lobum, lobis lanceolatis. Filamenta filiformia, glabra, longa, tubo supra basin inserta, parallela. Antheræ oblongæ, subcarnosæ, exsertæ, glabræ, demùm parùm divergentes, loculis parallelis, æqualibus. Ovarium glabrum; *stylus* filiformis, pilosus, staminibus parùm brevior; *stigma* simplex. Capsula clavata, quadrangularis, sessilis, acuta, ultra pollicem longa, glabra, suffulta calycis laciniis elongatis, patulis, ferè unguicularibus, angustissimè linearibus.

This very beautiful species approaches nearest to *Justicia thyrsiflora* Roxb. It is a large shrub, with ample dark green leaves, and long, curved, tubular flowers, of a bright orange-red colour, disposed in a large terminal raceme.

Plate CXII. Fig. 1. Flower. 2. Calyx. 3. Corolla. 4. Anthers.

JUSTICIA CALCARATA. Tab. 113.

Fruticosa, erecta, glabra; foliis elliptico-ovatis, acuminatis, deorsùm valdè attenuatis; paniculâ terminali, corymbosâ, pubescente; labio corollæ superiore integro, rostrato-acuminato, recurvo, inferiore trifido, lobis ovatis, obtusis; antheris exsertis, divaricatis, loculis inæqualibus, parallelis.

Crescit in montibus Sillet confinibus, ubi detexit F. De Silva. Floret mense Martii.

Frutex 5-pedalis, erectus, ramosus, glaber. Rami cylindrici, tumido-articulati, pallidè virides, glaberrimi. Folia patentia, subapproximata, petiolata, elliptico-ovata, acuminata, integerrima, deorsùm valdè attenuata et acuta, palmaria, glabra, membranacea, subtùs valdè pallida, nervis frequentibus, obliquis, parallelis, gracilibus, costâque elevatis. Petiolus gracilis, unguicularis, pollicaris. Panicula terminalis, ovata, 6-pollicaris, ramosa. Pedunculi *primarii* oppositi, elongati, teretes; *secundarii* breves, corymbosi. Flores magni, albi, fasciculati, pubescentes, insidentes *pedicellis* brevissimis, villosulis, suffultis *bracteis* parvis, lanceolatis. Calyx 5-fidus; *laciniæ* erectæ, breves, lanceolatæ. Corollæ extùs pubescentis *tubus* cylindricus, ferè 1½-pollicaris; *limbus* tubo dimidiò brevior, bilabiatus: *labium superius* integrum, lineare, semipollicare, desinens in acumen gracile, subfiliforme, adscendenti-recurvum; *inferius* patens, 3-fidum, laciniis ovatis, obtusis; *faux* pervia, tuberculis duobus, longitudinalibus inter stamina. Filamenta brevia, tubo infra faucem inserta, ferè inclusa. Antheræ complanatæ, exsertæ, demùm lateralitèr deflexæ; *locula* compressa, ovata, parallela, inæqualitèr inserta, unum nempè super alterum elevatum. Ovarium glabrum. Stylus capillaris.

Closely allied to *Justicia nasuta* Linn., but differing in the greater size of all its parts, and in the leaves being elliptic-ovate, and not lanceolate as in that species.

Plate CXIII. Fig. 1. Calyx. 2. Corolla. 3. Anthers.

ARUM TORTUOSUM. Tab. 114.

Caulescens, erectum, læve, monoicum; foliis binis, petiolatis, pedato-digitatis, 9—19-phyllis, foliolis oblongo-lanceolatis, acuminatis, intermediis subpetiolatis; spathæ limbo ovato, cucullato, decurvo; spadicis monoicæ clavâ longissimâ, gibboso-decurvâ, apice flagelliformi, adscendente, exserto; staminibus distantibus, sterilibus nullis.

Crescit ad loca humida, irrigata montium Napaliæ, florens Aprili et Majo.

Planta 3—4-pedalis, lævis, carnosa. Tuber magnum, depresso-orbiculatum, placentæforme, fuscum, carnosum, 6-pollicare, crassitie 2-pollicari, vertice ad ambitum caulis emittens *radiculas* plures crassas, cylindricas, nudas, pallidas. Caulis erectus, pallidè viridis, emaculatus, cylindraceo-attenuatus, erectus, basi crassissimâ indutus *vaginis* aliquot magnis, integris, obtusis, striatis, laxiusculè erectis, exterioribus brevibus, ovatis, semiamplexantibus, intimâ ferè pedali, semivaginante, supernè liberâ; mediò distantèr diphyllus; supernè digitum medium vix crassus, nudus; apice florifer. Folia duo ampla, distantia, pedalia ad 2-pedalia, patentia, circumscriptione orbiculato-cordata, pedato-digitata. Petiolus semipedalis, cylindricus, surgens e vagina adpressa, hinc fissa, ore obliquo, marginato, caule parùm ampliore; apice profundissimè canaliculato-marginatâ brevitèr bifidus. Foliola 9 ad 19, lanceolato-oblonga, acumine brevi terminata, parùm repando-undulata, margine angustissimè membranaceo, crispatulo, purpurascente, basi attenuata, subcarnosa, suprà atro-viridia, subtùs pallida, nervosa, costâ magnâ et crassâ, venis duabus intramarginalibus, distantèr parallelis; *intermedium* e bifurcatione petioli reliquis parùm majus, proximaque 6-pollicaria interdùm desinentia in petiolum brevissimum, marginatum, sulco profundo exaratum, nunc auriculatum; *exteriora* sensìm breviora, sessilia, basi plùs minùsve semidecurrenti-coadunata. Spatha terminalis, solitaria, viridis, glaucescens, dimidiâ inferiore parte cylindraceo-convoluta in *tubum* 5-pollicarem, rectum, intùs pallidè purpurascentem; superiore parte explanata in *limbum* integrum, ovatum, acutum, apice fornicato-gibbosum, undulatum, costato-striatum, descendentem, 6-pollicarem. Spadix carnosus, attenuatus, spatham longè superans; pars inferior recta, crassa, monoica, rarissimè dioica, infernè pistillifera, supernè staminifera, tubo spathæ omninò inclusa; superior pars sive *clava* extra tubum elevata, pedalis, flagelliformis, nuda, in formam literæ S torta, basi nempè adscendens, violacea, mediò infra limbum spadicis cucullatum descendens, sensìm viridescens et abiens in apicem gracillimum, teretem, retrorsùm adscendentem, supra spatham longè exsertum, nunc tractu serpentino curvatum. Ovaria densissimè congesta, numerosa, inferiorem dimidiam basis spadicis partem occupantia, ovata, subattenuata, 4-spora; *stylus* vix ullus; *stigma* capitatum, subunilaterale. Stamina superiorem ejusdem partem occupantia, pistillis multò pauciora, gracilia, distantia, patentissima vel subdecurvata; *filamenta* lineas 3 longa, subulato-teretia, terminata *antheris* 3, 4 vel 6, stellatìm patentibus; *sterilia* nulla.

This curious species of *Arum* varies considerably in stature, and in the number of leaflets. In general it attains a height of four feet, and each leaf consists of nineteen leaflets. The structure of the spadix is very singular, the middle being bent like a Roman S, ending in a long, ascending, and somewhat recurved apex. No part of the plant possesses any disagreeable smell; and I believe the root is considered innocent, and even esculent, by the mountaineers of Nipal.

Plate CXIV. Fig. 1. Spatha. 2. Spadix. 3. Stamen. 4. Ovary. 5. 6. The same, opened.

ARUM GUTTATUM. Tab. 115.

Subacaule, læve, monoicum; folio pedato-palmato, multilobo, lobis oblongis, acuminatis; spathâ oblongâ, acuminatâ, attenuato-acuminatâ, reclinatâ, basi vix tubulosâ; spadicis monoicæ clavâ elongatâ, exsertâ, erectâ, obtusâ; staminibus pistillisque seorsùm densè confertis, filamentis sterilibus intermediis, clavatis vel subulatis.

Crescit in sylvis montium Napaliæ, florens ad finem mensis Aprilis.

Tuber maximum, pugnorum duorum usque ad capitis dimensionem attingens, carnosum, globosum, e vertice lateribusque germinans, transversìm et parallelè rugosum, circum ambitum scapi emittens *fibras radicales* plures, breves, nudas, pallidas. Folium peractâ florescentiâ tempore pluvioso proveniens, radicale, pedato-palmatum, circumscriptione rotundato-cordatum, læve, pedale ad sesquipedale, suffultum *petiolo* cylindrico, basi crassissimo, squamis aliquot emarcidis vestito, sursùm attenuato, pedali; *lobi* oblongo-lanceolati, valdè acuminati, intermedii 6-pollicares, exteriores breviores, basi contractâ profundiùs separati, extimi lanceolati, 2-pollicares; membranacei, atrovirides, subtùs costato-nervosi. Inflorescentia radicalis, maxima, solitaria, rarò duæ, suffulta *scapo* crasso, columnari, vix 2-pollicari, pallidè viridi, purpureo-lineato. Squamæ aliquot magnæ, scapum longitudine excedentes (salvâ exteriore ovatâ, brevissimâ) lanceolatæ, attenuato-acutæ, albicantes, membranaceæ, citò emarcescentes. Spatha magna, crassa et carnosa, lævis, æstivatione convoluta in cylindrum purpureo-lividum, basi tumidum, indè rectè adscendentem, attenuatum in acumen gracile, curvum; *basis* tubulosa, pollices 2 ad 4 longa, integra, parùm tumida, supernè hinc fissa; *limbus* maximus, pedalis—2-pedalis, oblongo-lanceolatus, planus et expansus, basis concaviusculæ margine irregularitèr sinuato-repando, mediò integerrimus, recurvatus, descendens sensìmque attenuatus in acumen convolutum, terræque prostratum; suprà lætè viridis, maculis frequentissimis, angulatis, atro-purpureis, majusculis guttatus, subtùs purpurascens. Spadix monoicus, gracilis, spathâ tertiò brevior; *inferior pars* 3—4-pollicaris, cylindrica, digitum minimum crassa, basi pistillifera, pollicaris, apice paullò constricto staminifera, semipollicaris, mediò per distantiam 3-pollicarem purpurascens, partìm

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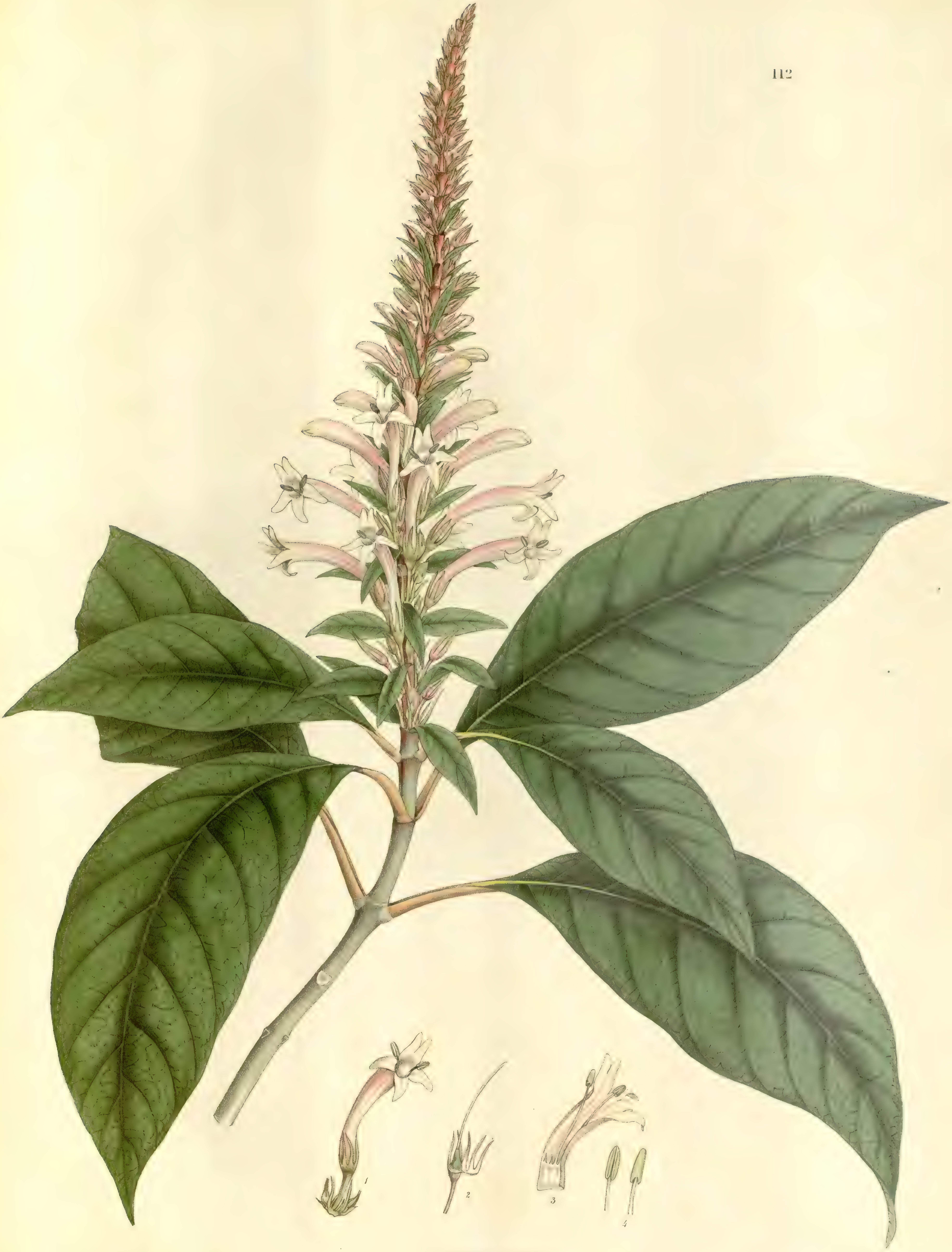

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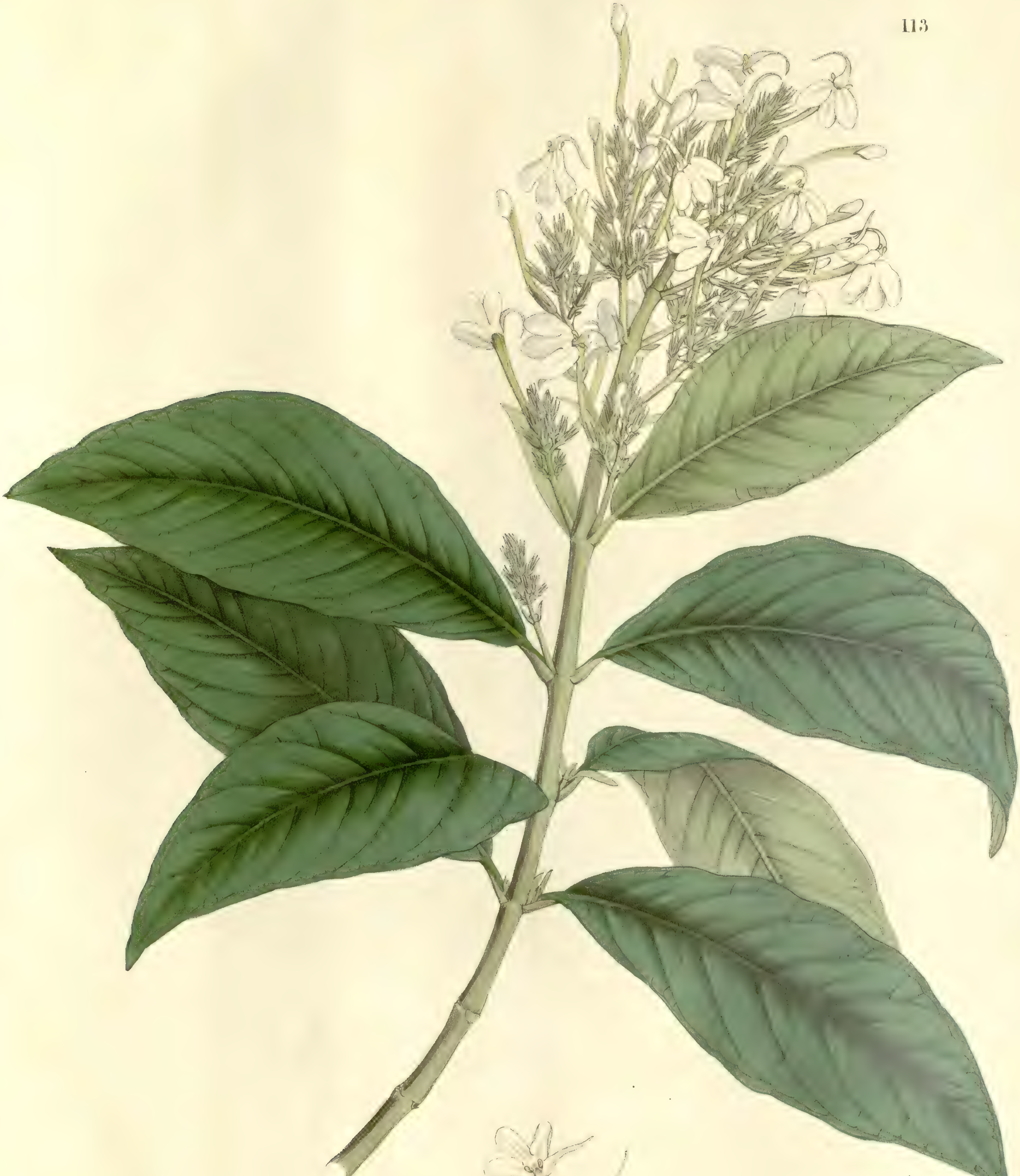
Justicia curviflora.



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Justicia calcarata

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Arum tortuosum

Arum guttatum

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staminibus sterilibus obsita; *superior pars* sive *clava* erecta, exserta, ferè pedalis, cylindrica, obtusa, pallidè fusca, nuda. Ovaria admodùm numerosa, arctissimè conferta, parva, oblongo-cuneata, tetragona vel pentagona, vertice plana, 2-ovulata; *stigmata* adnata, plano-convexa. Stamina copiosa et densa, parva, clavata, patentia; *filamenta* brevissima; *antheræ* carnosæ, loculis supernè obliquè dehiscentibus; *abortiva* seriebus duabus tribusve ad inferiorem inter pistilla staminaque fertilia interstitii partem occupantia, magna, clavata, obtusa, adscendentia, carnosa, lutea; prætereà alia rudimenta minuta, subulata, cuspidulata, per reliquum spatium sparsa.

This is a very stately *Arum*, with the inflorescence almost sessile on the tuber; and although it has a disagreeable smell, it is far less offensive than many of the other species. The spathe is very large and leathery, sometimes two feet long, hanging down from below the middle, and more or less trailing along the ground; the outer surface is of a livid purple colour, the inner is bright green, covered with innumerable dark purple, angular spots. Before expansion the heat at the bottom of the spathe is very considerable. The root is said to be a strong poison.

Plate CXV. Fig. 1. Inflorescence before expansion. 2. Spadix. 3. Stamen. 4. Ovary. 5. The same, opened.

SALVIA LANATA. Tab. 116.

Salvia lanata, Benth. Synops. Labiat. suprà, Vol. 1. p. 67.

Habitat in alpibus summis Kamounensibus, Sirmorensibus et Gurwalensibus; primùm detexit Dom. Hardwicke, deindè miserunt Domini Govan, Webb et Gerard. Ipse legi in montibus prope vallem Deyra dictam. Floret fructificatque Martio et Aprili.

Planta erecta, palmaris, pedalis bipedalisque, villis longis, canis, mollissimis densè obsita, attritu vix aromatica. Radix lignosa, longiuscula, subfusiformis, fusca, interdùm multiceps, *radiculas* emittens longas, filiformes, ramulosas. Caules sæpiùs plures, basi lignosi subadscendentesque, longitudinis variæ, usque ad pennam cygneam crassi, uti foliorum pagina aversa et tota planta recens vestiti lanugine densissimâ, longâ, canâ; supernè attenuati *rami*que obsoletè 4-angulares et 4-sulcati, glanduloso-villosi, subviscosi. Folia approximata, interstitiis pluriès longiora, erecto-patentia, acuta vel obtusiuscula, crenulato-denticulata, tenella integerrima, 4—6-pollicaria, deorsùm valdè attenuata, sessilia, subamplexicaulia, vel in *petiolum* brevem, marginatum decurrentia, subcarnosa, suprà rugosa, arachnoideo-sublanosa, subtùs densè lanuginosa, costâ latâ et prominente, nervis alternis, obliquis; *superiora* breviora, distantiora, omninò sessilia, basi minùs attenuata. Racemus terminalis caulis ramorumque, oblongus, palmaris vel parùm ultrà, constans verticillastris remotiusculis, 6-floris, suffultis *foliis floralibus* bracteiformibus, deciduis, lato-ovatis, concavis, acuminatis, multinerviis, ciliatis, glanduloso-villosis, suprà glabriusculis, patentibus, semipollicaribus, albicantibus, nervis acumineque pallidè viridibus. Flores magni, purpurei, insidentes *pedicellis* 3-linearibus, suffultis *bracteolâ* lineari, brevi. Calyx subcampanulatus, prominentèr multinervius, subquinquangularis, transversè venulosus, villosulus, bilabiatus; labium superius ovatum, lato-tricuspidatum, inferius angustius, bidentatum, dentibus lanceolatis, acutis. Corolla ferè pollicaris; *tubus* pallidus, calyce brevior, supernè levitèr ampliatus; *limbus* bilabiatus: *labium superius* adscendens, compressiusculum, oblongum, arcuatum, subretusè obtusum; *inferius* isto parùm brevius, patens, lateribus deflexum, 3-lobum; lobis lateralibus abbreviatis, lanceolatis, margine subrevolutis, intermedio lato, rotundato, obcordato, lateribus sinûs imbricantibus. Stamina lævia, labio superiore occulta; *filamenta* brevia, subulata; *antheræ* loculum oblongum, sustentum *connectivo* arcuato, longissimo, filiformi, extremitate inferiore dilatato-clavato, compresso, nudo. Stigma bilobum, subulatum, acutum. Achenia majuscula, ovata, obtusa, lævia, fusca.

I have received this beautiful plant from the Sirmore and Gurwal alps, collected by Captain Webb, Dr. Govan, and Lieutenant Gerard. I found it myself on far less elevated mountains, near the valley of Deyra, in fruit, in April 1825. In the Botanic Garden at Calcutta, where it was introduced by Lieutenant Gerard, it flowers in March. I believe with Mr. Bentham that it does not differ from Roxburgh's plant, discovered many years ago by my highly esteemed friend Major-General Hardwicke towards Srinaghur, and called by him in the Asiatic Researches, Vol. 6. p. 349. *S. integrifolia* (a name preoccupied by a Peruvian species). The name of *S. cana*, under which I transmitted specimens to the museum at the India House, and which I subsequently inserted in the Catalogue of Indian Plants (No. 2145.), as also that of the accompanying plate, must therefore be altered accordingly.

Plate CXVI. Fig. 1. Calyx, opened. 2. Corolla. 3. The same, opened. 4. A detached stamen.

SYNOPSIS

Of the Genera and Species of Indian Labiatæ *enumerated in the Catalogue of the Collections in Dr. Wallich's charge.*

By George Bentham, Esq. (Concluded from Vol. I. page 68.)

Tribus 5. PRASIEÆ, *Benth. in Bot. Reg. vol.* 15. *ad calc. n.* 1289.

XXXVI. Gomphostemma, *Wall. Cat. Herb. Ind.—Benth. loc. cit.*

Calyx ovato-campanulatus vel tubulosus, subæqualis, 5-dentatus, intùs fauce nudâ. Corolla tubo recto, sæpiùs exserto, supra medium inflato, bilabiata, labiis subæqualibus, superiore erecto, integro, fornicato, inferiore patento trifido. Stamina 4, sub labio superiore adscendentia, inferioribus longioribus. Antheræ per paria approximatæ, biloculares, loculis parallelis, transversalibus. Stylus apice subæqualitèr bifidus, lobis subulatis. Stigmata minuta. Achenia carnosa.—Herbæ perennes, caulibus sæpiùs erectis, simplicibus vel basi procumbentibus, radicantibus.

1. *G. strobilinum* (Wall. Cat. Herb. Ind. n. 2151); caule erecto, subsimplici, tomentoso; foliis petiolatis, elliptico-ovatis, basi attenuatis, rugosis, suprà hispidis, subtùs tomentosis; verticillastris in spicam terminalem congestis, vel infimis remotis, axillaribus; foliis floralibus bracteiformibus, sessilibus, lato-ovatis, irregularitèr dentatis, subtùs tomentosis, suprà glabratis, calyces superantibus; calycibus campanulatis, mollitèr tomentosis, dentibus ovato-lanceolatis; corollis calyce subtriplò longioribus.

β. elatius.

Caulis crassus, obtusè tetragonus, sulcatus, 1—2-pedalis; in var. β. 3-pedalis et ultrà. Folia caulina (extra petiolum) 6—10 pollices longa, 3—6 pollices lata; floralia pollicaria, suprà fuscescentia, glabra vel apicem versus pubescentia, subtùs rugosa, tomentosa. Verticillastri nunc omnes spicati, spicâ 4—6-pollicari (in var. β. ferè pedali), crassâ, densâ; nunc inferiores remoti, axillares, pauciflori, vel nonnulli in spiculas breves, axillares approximati. Corolla flava, extùs pubescens, tubo calycem superante, vix incurvo, fauce valdè inflatâ. Achenia siccitate rugosissima, glabra, uno alterove fertili, cœteris sæpiùs abortivis.

Hab. in Ava, ad Meong, Prome, et in monte Taong Dong.

2. *G. viride* (Wall. l. c. n. 2153); caule erecto, simplici, tomentoso-pubescente; foliis brevitèr petiolatis, elliptico-ovatis, basi attenuatis, flaccidis, suprà hispidulis, subtùs pilis stellatis pubescentibus; verticillastris paucifloris, in spicam brevem, terminalem congestis; foliis floralibus bracteiformibus, sessilibus, lato-ovatis, subdentatis, suprà glabriusculis, subtùs villosis, calyces superantibus; calycibus campanulatis, mollitèr villosis, dentibus lanceolatis; corollis calyce duplò longioribus.

G. strobilino valdè affine sed staturâ humilior. Folia lætè viridia, flaccida, haud rugosa, subtùs vix tomentosa. Spica brevis, pauciflora. Calyx amplus. Corollæ tubus brevior quàm in *G. strobilino.*

Hab. in Tavoy.

3. *G. Heyneanum* (Wall. l. c. n. 2152); caule erecto, subsimplici, floccoso-tomentoso; foliis petiolatis, elliptico-ovatis, basi attenuatis, rugosis, suprà mollitèr, subtùs densè floccoso-tomentosis; verticillastris in spicam terminalem congestis, vel infimis subremotis, axillaribus; foliis floralibus bracteiformibus, sessilibus, lato-ovatis, crenatis, rugosis, utrinque tomentosis, calyces superantibus; calycibus campanulatis, mollitèr tomentosis, dentibus ovato-lanceolatis, corollâ vix brevioribus.—*Stachys tomentosa,* Heyne MSS.

Habitus et statura *G. strobilini;* differt tomento floccoso, foliis floralibus suprà rugosis, tomentosis, nec glabratis, corollis minoribus, tubo incluso, labiis vix calycem superantibus.

Hab. in montibus prope Courtallum.

4. *G. oblongum* (Wall. l. c. n. 2154); caule erecto, simplici, tomentoso; foliis petiolatis, oblongo-ellipticis, basi attenuatis, rugosis, suprà hispidulis, subtùs densè tomentosis, floralibus conformibus; verticillastris axillaribus, remotis, paucifloris; calycibus campanulatis, tomentosis, dentibus lanceolato-linearibus, elongatis, acutis; corollis calyce triplò longioribus.

Caulis 1—2-pedalis. Folia ferè *G. strobilini* sed minora, angustiora. Verticillastri 2—4, axillares, 6—10-flori. Corolla extùs pubescens, ultrà 1½-pollicaris; tubo gracili, apice valdè inflato. Bracteæ parvæ, lineares, lanceolatæ vel ovatæ.

Hab. in Tavoy.

5. *G. lucidum* (Wall. l. c. n. 2156); caule erecto, subsimplici, densè rufo-tomentoso; foliis brevitèr petiolatis, elliptico-ovatis, utrinque attenuatis, suprà lucidis, piloso-hispidis, subtùs nervosis, densè rufo-tomentosis, floralibus conformibus; verticillastris axillaribus, remotis calycibus tubuloso-campanulatis, tomentosis, dentibus lanceolatis, breviatis; corollis calyce triplò longioribus.

Habitus præcedentis, sed robustior. Caulis 2—3-pedalis. Verticillastri 10—30-flori. Corolla flava, extùs densè tomentosa. Dentes calycini vix lineam longi.

Hab. Chappedong oræ Tenasserim et in Pundua.

6. *G. parviflorum* (Wall. l. c. n. 2158); caule erecto, subsimplici, tomentoso; foliis petiolatis, elliptico-ovatis, basi attenuatis, rugosis, suprà pubescentibus, subtùs tomentosis, floralibus conformibus; verticillastris axillaribus, remotis, laxè multifloris; bracteis oblongo-linearibus, calyces superantibus; calycibus campanulatis, dentibus lanceolato-linearibus; corollis gracilibus, calyce duplò longioribus.

Habitu præcedentibus affine, sed flores in axillis numerosissimi, laxè fasciculati. Corolla flava, extùs pubescens, 9—10-lineas longa, tubo gracillimo, fauce minùs inflatâ, limbo parvo.

Hab. in Napalia, Sillet, Penang.

7. *G. crinitum* (Wall. l. c. n. 2159); caule erecto, subsimplici, tomentoso; foliis petiolatis, elliptico-ovatis, basi attenuatis, vix rugosis, suprà pubescentibus, subtùs tomentosis, floralibus conformibus; verticillastris axillaribus, remotis, laxè multifloris; bracteis lineari-setaceis, calycem subæquantibus; calycibus tubuloso-campanulatis, fructiferis inflatis, basi glaberrimis, dentibus elongatis, setaceis, hispidis; corollis gracilibus, calyce duplò longioribus.

Habitus inflorescentia et corolla *G. parviflori;* bracteis et calyce distinctissimum; folia ampliora, minùs rugosa.

Hab. in Tavoy.

8. *G. eriocarpon;* caule adscendente, subsimplici, tomentoso; foliis brevitèr petiolatis, elliptico-oblongis, utrinque attenuatis, grossè dentatis, suprà hispidulis, subtùs tomentosis, floralibus conformibus; verticillastris remotis, paucifloris; bracteis ovatis, denticulatis; calycibus campanulatis, demùm inflatis, tomentosis, dentibus lineari-setaceis; corollis villosis, calyce duplò longioribus; acheniis tomentosis.

Caulis elongatus, tenuior quàm in speciebus præcedentibus. Folia 3—4 pollices longa, sesquipollicem lata, acutè dentata. Verticillastri pauci, sub-10-flori.

Hab. ad Courtallum.

9. *G. ovatum* (Wall. l. c. n. 2155); caule basi radicante, erectiusculo, subsimplici, tomentoso; foliis longè petiolatis, lato-ovatis, basi rotundatis vel vix attenuatis, suprà lucidis, hispidulis, subtùs mollitèr tomentosis, floralibus conformibus; verticillastris axillaribus, remotis, multifloris; bracteis lato-ovatis, exterioribus calycem subæquantibus; calycibus campanulatis, villoso-tomentosis, dentibus lanceolato-linearibus; corollis calyce triplò longioribus.

Folia minora et latiora quàm in præcedentibus. Corolla flava, pubescens, ferè sesquipollicaris, tubo calyce duplò longiore, fauce amplissimâ.

Hab. in Napalia.

10. *G. melissifolium* (Wall. l. c. n. 2157); caule basi repente, radicante, ramis adscendentibus, subsimplicibus, tomentosis; foliis petiolatis, ovatis, utrinque attenuatis vel basi rotundatis, glabriusculis, vel suprà hispidulis, subtùs parcè tomentosis, floralibus conformibus; verticillastris axillaribus, remotis, laxè paucifloris; bracteis ovatis, exterioribus calycem æquantibus; calycibus hispidis, dentibus lan-

Salvia cana.

Printed by Engelmann, Graf, Coindet & Co

G. rachard del.

M. [illegible] lith.

ceolato-linearibus; corollis calyce subtriplò longioribus.—*Prasium melissifolium*, Roxb. Hort. Beng. 45.

Præcedenti valdè affine; differt caule basi repente, foliis subtùs vix tomentosis, floribusque minoribus. Corolla 13—14 lineas longa, tubo gracili, apice parùm dilatato.

Hab. in Sillet.

11. *G. velutinum*; caule basi repente, radicante, ramis adscendentibus, subsimplicibus, tomentosis; foliis petiolatis, ovatis, crenatis, basi rotundatis, crassis, utrìnque densè velutino-pubescentibus, floralibus conformibus; verticillastris axillaribus, remotis, 2—6-floris; bracteis oblongis, calycem æquantibus; calycibus tomentosis, dentibus ovato-lanceolatis; corollis calyce duplò longioribus.

Species distinctissima, affinis *G. melissifolio.* Folia 12—18 lineas longa, 8—15 lata. Corollæ flavæ, 11—12 lineas longæ, tubo gracili, apice valdè dilatato.

Hab. in Sillet.

Tribus 6. OCYMOIDEÆ, *Benth. in Bot. Reg. vol.* 15. *ad calc. n.* 1300.

XXXVII. Moschosma, *Reichenb. Consp. p.* 171. *in nota.*

Calyx ovatus, 5-dentatus, dente superiore majore, marginibus non decurrentibus, post anthesin declinatus. Corolla tubo calyce breviore, bilabiata, labio superiore brevitèr quadrifido, inferiore integerrimo, subplano. Stamina 4, declinata. Filamenta libera, edentula. Antheræ ovato-reniformes, loculis confluentibus. Stylus clavato-capitatus, brevissimè bifidus, stigmatibus in emarginatura minutis.—Herbæ annuæ, paniculato-ramosæ. Flores minuti. Verticillastri pauciflori, nutantes, secundi, in racemos elongatos, graciles, axillares dispositi. Folia floralia et bracteæ minutissima vel omninò abortiva.

1. *M. polystachya;* caule acutè tetragono, angulis lævibus vel vix asperis; verticillastris 6—10-floris, laxis, approximatis.—*Ocymum polystachyon*, Linn. Mant. p. 567. *Lumnitzera polystachya*, Jacq.

Caulis 1—2-pedalis, ramosus, gracilis, glaber, vel pilis brevibus raris hispidulus. Folia longè petiolata, ovata, acuminata, crenata, basi rotundata vel cuneata, glabra vel suprà tenuissimè pubescentia, subtùs pallidiora. Racemi numerosi, graciles, 2—4-pollicares. Verticillastri sæpiùs 6-flori, rariùs 8—10-flori. Calyces hispiduli, vix bilabiati, dente supremo ovato, obtusiusculo, lateralibus acuminatis, infimis setaceis.

Hab. in Tavoy; ad Rangoon, Prome; in Travancore, Arcot.

2. *M. ocymoides*; caule tetragono, angulis asperis; verticillastris 2-floris, laxis.—*Lumnitzera ocymoides*, Jacq.

Habitus præcedentis, sed folia acutè serrata, suprà hispidula, subtùs canescentia. Calyces paullò majores, glabriusculi, fructiferi ovato-patentes, distinctè bilabiati, dentibus 3 ovatis, brevissimè acuminatis in labium superius, 2 lanceolatis, acutis in inferius approximatis.

Hab. in Sillet.

XXXVIII. Ocymum, *Linn. Gen.* 732.

Calyx ovatus vel campanulatus, 5-dentatus, dentis superioris ovato-membranacei marginibus decurrentibus alatus, post anthesin deflexus. Corolla tubo calyce subbreviore, bilabiata, labio superiore 4-fido, inferiore integerrimo, subplano. Stamina 4, declinata. Filamenta libera, inferiora basi sæpiùs dente vel pilorum fasciculo appendiculata. Antheræ ovato-reniformes, loculis confluentibus. Stylus apice subulato-bifidus, stigmatibus minutis.—Herbæ vel suffrutices. Verticillastri 6-flori, interruptè spicati vel racemosi, spicis subsimplicibus, vel rariùs densè thyrsoideo-paniculatis.

§ 1. *Caule herbaceo, sæpiùs annuo.*

1. *O. Basilicum* (Linn. Sp. 833); caule herbaceo, erecto vel adscendente; foliis petiolatis, ovatis vel oblongis, basi attenuatis, subdentatis, glabris, petiolis ciliatis; racemis simplicibus; calycibus pedicello longioribus, fructiferis reflexis, inflato-campanulatis, ciliatis, basi suprà gibbosis, labio superiore orbiculato, concavo, brevissimè acuminato, alis basin calycis non attingentibus, lobis lateralibus ovatis, acutis, infimis setaceo-acuminatis; filamentis inferioribus appendiculatis.

This species, cultivated for so many ages in a great variety of climates, has necessarily become exceedingly changeable in its forms. Those which have come under my own observation appear to be reducible to the following races.

α. *pilosum;* caule ramosissimo, erecto vel adscendente; verticillastris remotis, spicatis, pilosissimis.—*O. Basilicum*, Linn. Sp. 833. *O. hispidum*, Lam. Dict. 1. p. 384. *O. pilosum*, Willd. Enum. p. 629. Roxb. Hort. Beng. p. 45. *O. ciliatum*, Herb. Vahl., et Hortul. Plur.

β. *majus.*—*O. majus*, Hortul.

γ. *glabratum;* petiolis calycibusque minùs ciliatis; foliis vix dentatis.—*O. integerrimum*, Willd. Sp. 3. p. 162. *O. caryophyllatum*, Roxb. Hort. Beng. p. 45. *O. Barrelieri*, Roth. Nov. Pl. Sp. p. 278?

δ. *album;* foliis majoribus, latioribus, crassiusculis; verticillastris approximatis, spicis vix ciliatis, canescentibus; corollis majoribus.—*O. album*, Linn. Mant. p. 85. *O. laxum*, Herb. Vahl.

ε. *difforme;* foliis bullatis vel laciniato-dentatis.—*O. bullatum*, Lam. Dict. 1. p. 384. *O. urticæfolium*, Hortul.

ζ. *purpurascens.*—*O. nigrum*, Thouin.

Caulis erectus, ramosissimus, in var. α. sæpè adscendens, laxè ramosus, pedalis vel ultrà, basi sæpiùs glaber vel pilis brevibus, reflexis pubescens. Folia ovata, obtusiuscula vel frequentiùs acuminata, subtùs punctata, sæpiùs irregularitèr dentata, rarò integerrima. Racemi sæpè 8—10-pollicares vel ultrà; verticillastri inferiores pollicem circitèr distantes, supremi approximati. Folia floralia parva, petiolata, ovata, acuminata, ciliata, calyces paullò superantia, sæpè colorata. Corolla calyce subduplò longior, tubo incluso, fauce subinflatâ; labium superius latè 4-fidum, lobis sæpè crenatis, undulato-crispis, vel (in varietatibus cultis) fimbriatis. Filamenta staminum inferiorum brevitèr appendiculata. Achenia lævia. Stylus basi incrassatus.

Hab. α. Sillet, Kantanagur, Oude, Madras. γ. Nathpur, Patna, Penang. β. δ. et ε. in hortis ortæ. ζ. in hortis occurrit, an ex India Orientali allata?

Occurrit etiam spontè in India occidentali, sed non indigenum.

2. *O. canum* (Bot. Mag. 51. t. 2452.); caule herbaceo, erecto, pubescente; foliis petiolatis, ovatis, utrìnque attenuatis, subintegerrimis, subtùs canescentibus; petiolis ciliatis; racemis simplicibus; calycibus pedicello longioribus, fructiferis reflexis, cauli adpressis, basi suprà gibbosis, vix ciliatis, labio superiore orbiculato, concavo, brevissimè acuminato, alis basin calycis non attingentibus, lobis lateralibus ovatis, acutis, infimis setaceis; filamentis inferioribus appendiculatis.—*O. album*, Herb. Roxb. et aliorum, non Linn.

Species *O. Basilico* valdè affinis, at distincta videtur. Caulis pedalis vel ultrà, erectus, ramosus, pilis brevibus, reflexis, sæpiùs fasciculatis cano-pubescens, ad axillas pilis nonnullis longis, albis ciliatus. Folia ovata vel ovato-oblonga, 1—2 pollices longa, integerrima vel subdentata, margine petiolisque pilis raris, longis, albis sæpiùs ciliata, suprà ad nervos tenuissimè pubescentia, subtùs glabra, punctata. Racemi numerosi, stricti, 6-pollicares vel ultrà; verticillastri fructiferi semipollicem distantes. Folia floralia oblonga, petiolata, calyces vix superantia, ciliata. Calyces orbiculato-depressi, sesquilineam lati, parcè ciliati. Flores *O. Basilici*, sed minores.

Hab. Sillet; Paghamew, Taong Dong; etiam prope Madras.

3. *O. thyrsiflorum* (Linn. Mant. p. 84); caule herbaceo, erecto, glabriusculo; foliis petiolatis, ovatis, utrìnque attenuatis, integerrimis dentatisve, glabris; petiolis nudis; racemis pubescentibus, ramosis, thyrsoideo-paniculatis; verticillastris laxis, approximatis; calycibus pedicello longioribus, fructiferis reflexis, dilatato-campanulatis, labio superiore orbiculato, alis basin calycis non attingentibus; filamentis inferioribus appendiculatis.

Hab. . . . . (in hortis cultum.)

This plant is frequently cultivated in European as well as Indian gardens, and scarcely differs from the *O. Basilicum*, except in the inflorescence. I have never met with wild specimens in any of the herbariums I have examined, and am therefore inclined to think it may be a mere variety of *O. Basilicum*, raised by cultivation. This opinion is in some measure confirmed by those intermediate states which Miller considered as a distinct species, under the name of *O. medium.*

The *O. minimum*, Linn., which belongs also to this section, is a

Chilian, and not an East Indian plant. The *O. micranthum*, Willd. (*O. montanum*, Hook. Bot. Mag. v. 57. t. 2996.; *O. campechianum*, Mill. Dict.; *O. peltatum*, Hortul.; *O. frutescens*, Sieb. Pl. Exs. et Auct. plur., an Linn.?) is a native of Brasil, Cayenne, and some of the West Indian Islands. I have also several new herbaceous *Ocymums* from South America.

§. 2. *Caule suffruticoso vel fruticoso.*

4. *O. sanctum* (Linn. Mant. p. 85); caule suffruticoso, ramis adscendentibus, pilosis; foliis petiolatis, oblongo-ovatis, obtusis, dentatis, pubescentibus, nervis petiolisque pilosis; racemis gracilibus, simplicibus vel basi subramosis; foliis floralibus sessilibus, ovatis, pedicello brevioribus; calycibus pedicello brevioribus, nutantibus, glabriusculis, intùs fauce nudâ, labio superiore lato, obovato, brevitèr decurrente, concavo; corollis calycem vix superantibus; filamentis inferioribus basi pilorum fasciculo appendiculatis.—*O. monachorum*, Willd. Sp. 3. p. 159. et Auct. alior., verisimilitèr etiam Linn. *O. tomentosum*, Lam. Dict. 1. p. 387. *O. villosum*, Roxb. Hort. Beng. p. 44? *Plectranthus monachorum*, Spr. Syst. 2. p. 690.

Tota planta sæpiùs purpurascit, in hortis Europæis herbacea, annua, in loco natali suffruticosa. Folia parva, longè petiolata. Racemi laxi, 3—5-pollicares. Calyces parvi. Corolla vix calyce longior, pallidè purpurascens.—Stirps dudùm in India culta, villositate staturâque valdè variabilis.

Hab. Monghir; Prome.

5. *O. hirsutum*; caule suffruticoso, diffuso, pubescenti-villoso; foliis petiolatis, oblongis, obtusis, subdentatis, basi attenuatis, villosis; racemis gracilibus; foliis floralibus minutis; calycibus fructiferis deflexis, intùs fauce nudâ, labio superiore orbiculato, obtuso, decurrente, alis medium calycis attingentibus; corollis calyce subbrevioribus; filamentis inferioribus basi appendiculatis.

Suffrutex parvulus. Folia vix illa *O. minimi* superantia, *O. sancto* conformia. Racemus tenuis, 2—3-pollicaris. Calyx ferè *O. sancti*. Corolla minutissima.

Hab. Courtallum, Palamcottah.

6. *O.? diffusum*; caule suffruticoso, diffuso, tomentoso-villoso; foliis petiolatis, oblongo-ovatis, obtusis, crenatis, tomentoso-villosis, rugosis; racemis simplicibus, abbreviatis, paucifloris; foliis floralibus minutis; calycibus fructiferis oblongis, nutantibus, striatis, glabriusculis, intùs fauce villosâ, labio superiore ovato, brevitèr decurrente, inferioris dentibus elongatis, setaceis; filamentis inferioribus basi appendiculatis (?)

Habitus *O. hirsuti*, sed calyce oblongo, intùs villoso distinctum. Corolla minuta, vix calycem excedens. Stamina et stylus imperfectè a me examinata, locus ideò incertus.—An *Orthosiphon?* cui calycis formâ accedit.

Hab. . . . . Herb. Wight.

7. *O.? adscendens* (Willd. Sp. 3. p. 166.); caule suffruticoso (?), prostrato, ramis pubescentibus; foliis petiolatis, oblongis, obtusis, subdentatis, basi attenuatis, pubescentibus; racemis simplicibus; foliis floralibus acuminatis, calyces æquantibus, deciduis; calycibus fructiferis nutantibus, intùs fauce nudâ, tubo striato, labio superiore ovato, acuto, alis medium calycis attingentibus, inferiore margine membranaceo, dilatato, ciliato-dentato; corollis calyce duplò longioribus; staminibus longè exsertis, filamentis inferioribus basi dentatis.—*O. indicum*, Roth. Nov. Pl. Sp. p. 273. *Plectranthus indicus*, Spr. Syst. 2. p. 691. *O. cristatum*, Roxb. Hort. Beng. p. 45.

Suffrutex (?) humilis, præcedentibus affinis sed glabrior, canescens, ramis elongatis. Folia vix majores quàm in *O. minimo*, formâ ferè *O. sancti*. Calyx fructifer *O. gratissimi*.

Hab. . . . Herb. Madr. et Hamilt.

8. *O. gratissimum* (Linn. Sp. 832); caule fruticoso, ramoso, glabro vel supernè villoso; foliis petiolatis, ovatis, acutis, crenatis vel grossè dentatis, basi attenuatis, glabris vel ad costam pubescentibus; racemis simplicibus vel basi subramosis, pubescentibus; foliis floralibus bracteiformibus, lanceolatis, acuminatis, basi hastatis; calycibus pedicellatis, fructiferis nutantibus, labio superiore ovato-oblongo, brevitèr decurrente, inferioris dentibus brevissimis; corollis calycem vix superantibus; staminibus exsertis, filamentis inferioribus basi appendiculatis.—*O. petiolare*, Lam. Dict. 1. p. 385. *O. frutescens*, Mill. Dict.

Hab. Monghir, Nathpur; Penang.

The *O. gratissimum*, Lam. Dict. 1. p. 386. and of several continental gardens, or *O. villosum*, Weinm. in Syllog. Plant. Soc. Ratisb. 1. p. 121., is the *O. suave* of Willd. Enum. p. 629., a Madagascar plant. The *O. viride* Willd., to which should be referred *O. febrifugum*, Lindl. Bot. Reg. v. 9. t. 753. and *O. heptodon*, Beauv. Fl. Ow. et Ben. 2. p. 59. t. 94., is a Senegal species, scarcely differing from *O. gratissimum*.

XXXIX. ORTHOSIPHON, *Benth. in Bot. Reg. vol.* 15. *ad calc. n.* 1300.

Calyx ovatus vel tubulosus, 5-dentatus, dentis superioris ovato-membranacei marginibus decurrentibus alatus, post anthesin reflexus. Corolla tubo exserto, recto vel incurvo, nec gibboso, nec refracto, fauce æquali vel rariùs inflatâ, bilabiata, labio superiore 3—4-fido, inferiore integerrimo, concavo. Stamina 4, declinata. Filamenta libera, edentula. Antheræ ovato-reniformes, loculis confluentibus. Stylus clavato-capitatus, subinteger vel brevitèr emarginatus, stigmatibus in emarginatura minutis.—Herbæ perennes suffruticesve. Verticillastri 6-flori, interruptè racemosi, racemis elongatis, simplicibus.

1. *O. rubicundus;* caulibus cæspitosis, basi foliosis, ramosis; foliis oblongo-ovatis, grossè dentatis, basi attenuatis, infimis petiolatis, superioribus sessilibus: corollæ tubo recto, fauce subæquali, calyce duplò longiore.—*Plectranthes rubicunda*, Don Prod. Fl. Nep. p. 116. *Lumnitzera rubicunda*, Spr. Syst. Cur. Post. p. 223.

α. mollissimus; foliis utrinque mollissimè villosis.—*Plectranthus mollissimus*, Wall. MSS. *Ocymum triste*, Roth. Nov. Pl. Sp. p. 270?

β. canescens; foliis brevitèr tomentoso-pubescentibus.

γ. rigidus; foliis glabriusculis vel brevissimè tomentosis.—*O. rigidum* et *O. Bantulasia*, Herb. Hamilt.

Radix crassus, fibris lateralibus sæpè tuberosis. Caules (cum racemo) pedales vel ultrà. Folia minutissimè glanduloso-punctata. Calycis labium superius coloratum. Corolla alba, vel dilutè purpurascens, lineas 6, in speciminibus Napalensibus ferè 8 longa.

Hab. *α*, Napalia et Kamoun. *β*, Segain. *γ*, Nathpur et Monghir.

2. *O. virgatus;* caulibus basi cæspitosis, ramis erectis, strictis; foliis oblongo-lanceolatis, subdentatis, basi attenuatis, sessilibus vel infimis brevitèr petiolatis; corollis calyce duplò longioribus, tubo rectiusculo, fauce subæquali.—*Plectranthes virgata*, Don Prod. Fl. Nep. p. 116.—*Lumnitzera virgata*, Spr. Syst. Cur. Post. p. 223.

Ab *O. rubicundo* differt caulibus elatioribus, foliis angustioribus, racemo breviore, paucifloro, verticillastris remotioribus, corollis minoribus, tubo vix recto. Calyces colorati.

Hab. Gorakpur; montes Morung.

3. *O. viscosus;* caule basi fruticoso, erecto, ramoso; foliis petiolatis, ovatis, crenatis, basi rotundatis vel cordatis, viscoso-pubescentibus, glanduloso-punctatis, petiolis axillisque pilosis; corollæ tubo recto, calyce duplò longiore, fauce subæquali.—*Ocymum viscosum*, Wight. Herb. vix Roth. Nov. Pl. Sp. p. 274.

Inflorescentia *O. rubicundi*, sed habitu et foliorum formâ diversus. Rami petioli et nervi foliorum pilis longis, albidis, viscosis sæpiùs hispidi.

Hab. Dindygul.

4. *O. tomentosus;* caule basi suffruticoso, ramis adscendentibus, tomentoso-pubescentibus; foliis petiolatis, ovatis, crenatis, basi cuneatis vel rotundatis, utrinque tomentosis, glanduloso-punctatis; racemis gracilibus, paucifloris; corollis calyce vix duplò longioribus, tubo recto, fauce subæquali; staminibus corollâ brevioribus.—*Ocymum viscosum*, Roth. Nov. Pl. Sp. p. 274.?

Suffrutex humilis, ramosissimus, habitu *Ocymi diffusi* et *hirsuti*. Folia vix 8—10 lineas longa, 6—8 lineas lata. Corolla *Orthosiphonis amœni*.

Hab. . . . . Herb. Wight. (specimina cum *Ocymo hirsuto* mixta.)

5. *O. glabratus;* caulibus adscendentibus, ramosis, glabris; foliis longè petiolatis, ovatis, acutis, dentatis, basi rotundatis vel subcor-

datis, glabriusculis; racemis gracilibus; corollis subincurvis, tubo calyce duplò longiore, fauce subæquali; staminibus corollâ brevioribus.—*Ocymum thymiflorum*, Roth. Nov. Pl. Sp. p. 269? at folia minora.

Affinis præcedenti, sed major, glabratus. Calyces parvi, fructiferi ovati.

Hab. Courtallum.

6. *O. incurvus;* caule basi procumbente, adscendente; foliis petiolatis, oblongis, crenatis, utrìnque attenuatis, tenuissimè pubescentibus; verticillastris subsecundis; corollis villosis, incurvis, calyce triplò longioribus, fauce subæquali; staminibus corollam æquantibus.

Calyces fructiferi elongati. Corollæ valdè incurvæ, 9 lineas longæ.

Hab. Sillet.

7. *O. scapiger;* caulibus e basi crassa, repente, radicante erectis, simplicibus, scapiformibus; foliis ad basin caulis approximatis, petiolatis, ovato-oblongis, grossè dentatis, basi attenuatis, glabriusculis; racemis elongatis; corollis calyce subtriplò longioribus, tubo recto, fauce amplissimâ; staminibus vix corollâ longioribus.

Folia ferè omnia radicalia, limbo 3—5 pollices longo, 1½—2 pollices lato. Corolla cœrulea, 7—8 lineas longa, fauce valdè inflatâ, campanulatâ. Labium superius brevissimum, 4-dentatum, inferius elongatum, concavum. Genitalia brevitèr exserta.

Hab. Napalia.

8. *O. stamineus;* caule herbaceo, erecto, subramoso; foliis petiolatis, ovatis, acuminatis, grossè dentatis, basi cuneatis, rotundatis vel supremis subcordatis; racemis laxis; corollis calyce triplò longioribus, tubo subrecto, labio superiore dilatato, genitalibus longissimè exsertis. —*Ocymum grandiflorum*, Blume Bydr. p. 835. non L'Hér.

Herba 2—3-pedalis, glabriuscula vel tenuissimè tomentoso-pubescens. Inflorescentia et calyx omninò generis. Flores candidi, pulcherrimi, ferè *Clerodendri*. Corolla 8—9-linearis, tubo gracili; labium superius dilatatum, quadridentatum, inferius lineare, canaliculatum. Genitalia capillacea, corollâ duplò vel ferè triplò longiora.

Hab. Taong Dong Avæ; Martabania.

XL. COLEUS, *Lour. Fl. Cochin.*

Calyx ovato-campanulatus, fructifer erectus vel reflexus, 5-dentatus, dente superiore ovato-membranaceo, marginibus rariùs decurrentibus. Corolla tubo exserto, refracto vel gibbo, fauce æquali vel inflatâ, balabiata, labio superiore 3—4-fido, inferiore integro, elongato, concavo, genitalia involvente. Stamina 4, declinata. Filamenta edentula, basi tubo stylum vaginante connexa. Antheræ ovato-reniformes, loculis confluentibus. Stylus apice subulatus, æqualitèr bifidus. Herbæ vel suffrutices. Verticillastri sæpiùs multiflori, nunc densè vel interruptè spicati vel racemosi, nunc laxi, cymiformes, paniculati.

§ 1. *Calceolus.* Verticillastri 6—10-flori, spicati vel racemosi. Calyces fructiferi deflexi, fauce intùs villosâ?

1. *C. barbatus;* caule basi fruticoso, adscendente, ramoso, tomentoso-hispido; foliis petiolatis, ovatis, crenatis, basi attenuatis, mollitèr tomentosis, junioribus strigoso-hispidis; racemis simplicibus; verticillastris 6—10-floris, distinctis, remotis; foliis floralibus membranaceis, lato-ovatis, acuminatis, in apice racemorum comosis, per anthesin deciduis; calycibus fructiferis deflexis, hispidis, fauce intùs villosâ, labio superiore ovato, acuto, membranaceo, subdecurrente, inferioris dentibus lanceolatis acutis, subæqualibus; corollæ tubo suprà gibboso, refracto, vix calycem excedente, labio inferiore stipitato, maximo, concavo, cucullato; acheniis lævissimis.—*Plectranthus Forsköhlii*, Willd. Sp. 3. p. 169. Bot. Mag. v. 16. t. 2036. an Vahl.? *P. crassifolius*, Willd. l. c. an Vahl.? *Ocymum hadiense* et *O. zatarhendi*, Forsk.? *Plectranthus barbatus*, Andr. Bot. Rep. t. 594. *P. comosus*, Bot. Mag. v. 49. t. 2318.

The floral leaves frequently fall off so early that several authors have distinguished two species, one with them, another without.

Hab. Napalia, Kamaon.

2. *C. spicatus;* caule herbaceo, basi procumbente, ramis adscendentibus, patentìm pilosis; foliis petiolatis, obovatis, subintegerrimis, basi attenuatis, carnosis, tenuissimè pubescentibus; verticillastris 6—10-floris, in spicas elongatas, terminales approximatis; foliis floralibus membranaceis, lato-ovatis, concavis, acutis, ad apicem spicarum comosis, demùm deciduis; calycibus fructiferis deflexis, hispidis, fauce intùs villosissimâ; labio superiore lato-rotundato, membranaceo, subdecurrente, inferioris dentibus lato-lanceolatis, acutis; corollæ tubo suprà gibboso, refracto; acheniis villosissimis.—*Plectranthus spicatus*, Herb. Wight. *P. caninus*, Roth. Nov. Pl. Spec. p. 279? *P. monadelphus*, Roxb. Hort. Beng. p. 45. Roth Nov. Pl. Sp. p. 267.

Racemus semipedalis pedalisve, densiflorus. Bracteæ multò breviores quàm in *C. barbato*, latissimæ, concavæ, margine ciliatæ. Corolla *C. barbati*, at minor.

Hab. Mysore.

§ 2. *Aromaria.*—Verticillastri globosi, multiflori, simplicitèr racemosi; calyces fructiferi suberecti, fauce intùs subnudâ.

3. *C. aromaticus;* caule basi fruticoso, ramoso, tomentoso-hispido; foliis petiolatis, lato-ovatis, crenatis, basi rotundatis, crassis, utrìnque villosis; racemis simplicibus; verticillastris multifloris, globosis, distinctis, subremotis; foliis floralibus ovatis, acuminatis, calycem vix æquantibus; calycibus fructiferis suberectis, tomentoso-candidis, labio superiore elongato, ovato, membranaceo, acuto, inferioris dentibus brevioribus, setaceis, fauce intùs subnudâ; corollæ tubo basi infrà gibbo, refracto, fauce inflatâ, labio superiore brevissimo, inferiore elongato, concavo.—*Plectranthus aromaticus*, Roxb. Hort. Beng. p. 45.

Calyces parvi, 30 vel ultrà in quoque verticillastro.

Hab. Patna.

4. *C. crassifolius;* caule erecto, ramoso, tomentoso; foliis petiolatis, lato-ovatis, grossè dentatis, basi rotundatis, crassis, utrìnque piloso-hispidis; racemis simplicibus; verticillastris multifloris, globosis, distinctis, infimis remotis, supremis subspicatis; foliis floralibus ovatis, mucronatis, calyces superantibus, per anthesin deciduis; calycibus fructiferis suberectis, rufo-hispidis, intùs fauce nudâ, labio superiore elongato, oblongo, obtuso, concavo, membranaceo; inferioris dentibus brevioribus, setaceis; corollæ tubo basi infrà subgibbo, refracto, fauce vix inflatâ, labio superiore inferiore dimidiò breviore.—*Plectranthus crassifolius*, Herb. Wight. non Willd.

C. aromatico affinis. Statura elatior. Folia majora, minùs hirsuta. Corollæ minores, fauce minùs inflatâ, labio superiori productiore.

Hab. . . . . Herb. Wight.

§ 3. *Solenostemon* (Herb. Vahl.).—Verticillastri laxè multiflori, sæpiùs cymosi, racemosi vel paniculati, calyces fructiferi declinati, fauce intùs nudâ.

5. *C.? rugosus;* caule erecto, subramoso, carnoso, subglabro; foliis longè petiolatis, ovatis, obtusè crenatis, basi cuneatis, integerrimis, in petiolum decurrentibus, crassis, carnosis, rugosis, nervosis, glabris, floralibus bracteiformibus, acuminatis, calyces vix superantibus; verticillastris laxiusculis, multifloris, spicatis, infimis distinctis; calycibus hispidulis, declinatis, intùs fauce nudâ, lobo superiore oblongo, acuto, vix decurrente, inferioribus minutis, lateralibus latis obtusis, infimis setaceis.—*Dracocephalum rugosum*, Herb. Madr.

Spica bipollicaris. Verticillastri 10—15-flori. Corollas vix examinare potui, sed ob affinitatem cum *C. africano* hanc speciem ad *Coleum* retuli. Stylus videtur apice complanato-bifidus.

Hab. . . . . Herb. Madr.

6. *C. scutellarioides;* caule basi fruticoso, erecto, ramoso, glabro vel tenuissimè tomentoso; foliis petiolatis, ovatis, acuminatis, dentatis, basi rotundatis, glabris vel vix tomentosis; racemis gracilibus, elongatis, simplicibus vel basi subramosis; foliis floralibus ovatis, acuminatis, membranaceis, deciduis, verticillastro brevioribus; verticillastris laxè multifloris, pedunculo communi subnullo, pedicellis ramos breves subæquantibus; calycibus fructiferis declinatis, membranaceis, glabriusculis, fauce intùs nudâ, dente superiore ovato, acutiusculo, non decurrente, lateralibus brevioribus, ovatis, obtusissimis, infimis longioribus, lanceolatis, acutis, ferè ad apicem connatis; corollæ tubo basi infrà gibbo, erecto, medio refracto, fauce vix inflatâ, labio inferiore elongato, porrecto.—*Ocymum scutellarioides*, Linn. Sp. 834.

Plectranthus scutellarioides, Br. Prod. p. 506. vix Blume Bydr. cui verticillastri secundi.

Hab. . . . . .

7. *C. atropurpureus;* caule basi fruticoso (?), erecto, ramoso, tenuissimè pubescente; foliis petiolatis, lato-ovatis, crenatis, basi rotundatis, tenuissimè pubescentibus; racemis simplicibus; verticillastris laxis, pedunculo communi subnullo, ramis elongatis, multifloris, pedicellis brevissimis; foliis floralibus ovatis, minutis, deciduis; calycibus fructiferis declinatis, membranaceis, pubescentibus, dente superiore ovato, acutiusculo, laterales ovatos, obtusissimos æquante, infimis duplò longioribus, acutis, ultra medium connatis; corollæ tubo basi infrà gibbo, medio refracto, fauce subdilatatâ, labio inferiore elongato, porrecto.—*Plectranthus atropurpureus*, Wall. MSS. *P. ingratus*, Blume Byd. p. 837? cui verò folia basi cuneata nec rotundata.

Folia utrìnque purpurascentia.—Affinis *C. scutellarioidi* sed inflorescentiâ distinctissimus.

β. ramosus; racemis subpaniculatis, foliis minùs purpurascentibus, pedicellis longioribus;—an species propria?

Hab. Singapore. *β.* Penang.

8. *C. paniculatus;* caule basi procumbente, ramoso, glabriusculo; foliis petiolatis, lato-ovatis, inciso-dentatis, basi rotundatis, integerrimis, crassis, carnosis, hispidulis; racemo terminali, paniculiformi; verticillastris cymiformibus, laxissimis, pedunculo communi, ramis pedicellisque elongatis; foliis floralibus ovatis, membranaceis, acuminatis, ad apicem racemi comosis, per anthesin deciduis; calycibus fructiferis membranaceis, declinatis, dente superiore ovato, vix decurrente, lateralibus infimisque lanceolatis subæqualibus; corollæ tubo basi subgibbo, medio refracto, fauce dilatatâ, labio inferiore elongato, concavo.

Folia *C. canini*, vel *crassifolii*. Corolla ferè *C. Malabarici*. Inflorescentiâ ab omnibus distincta.

Hab. . . . . Herb. Wight.

9. *C. malabaricus;* caule erecto (?), ramoso, tenuitèr pubescente; foliis petiolatis, amplis, lato-ovatis, crenatis, basi rotundatis, suprà glabriusculis, subtùs glanduloso-punctatis; racemis laxè paniculato-ramosis; verticillastris sub-10-floris, laxiusculis, pedunculo communi subnullo, ramis abbreviatis; foliis floralibus ovatis, minutis, deciduis; calycibus fructiferis glabris, membranaceis, nutantibus, intùs fauce nudâ, dente supremo ovato, acutiusculo, marginibus revolutis, 4 inferioribus lanceolatis, acutis, 2 lateralibus supremum æquantibus, 2 infimis longioribus, ad basin cum lateralibus, ultra medium invicem connatis; corollæ tubo basi infrà gibbo, supra medium refracto, fauce dilatatâ, labio inferiore elongato, foliato.—*Plectranthus malabaricus*, Herb. Madr.

Hab. Travancore.

To this section should be referred *C. africanus* from Senegal, which is inscribed *Ocymum scutellarioides* in Vahl's herbarium, and also, in another hand-writing, *Solenostemon scutellarioides.* I have seen the same species from that country in other herbaria, and believe it to be the same as *Ocymum monostachyum* of Palisot de Beauvois, as well as can be made out from his figures. Blume's *Plectranthi*, as also several new species I possess from Ceylon and from the Indian Archipelago, belong to this same section of *Coleus.*

XLI. PLECTRANTHUS. *L'Hér. Stirp.*

Calyx per anthesin campanulatus, 5-dentatus, dentibus æqualibus vel superiore sæpiùs majore, post anthesin declinatus, incurvus, basi gibbus vel inflatus, ore sæpiùs bilabiatus; vel rariùs erectus, tubulosus, æqualis. Corolla tubo exserto, basi gibbo vel calcarato, refracto vel rariùs subrecto, fauce æquali vel rariùs inflatâ, bilabiata, labio superiore 3—6-fido, inferiore longiore, concavo. Stamina 4, declinata. Filamenta libera, edentula. Antheræ ovato-reniformes, loculis confluentibus, vel rariùs subbiloculares, loculis divaricatis. Stylus apice subulatus, æqualitèr bifidus, stigmatibus minutis.—Herbæ, suffrutices, fruticesve. Verticillastri laxi, sæpiùs cymosi, multiflori, racemoso-paniculati.

§ 1. *Coleoides.*—Calyx fructifer declinatus, dente superiore ovato, subdecurrente, 4 inferioribus acutis, sæpiùs plùs minùsve inter se connatis. Corolla ecalcarata.

1. *P. cordifolius* (Don Prod. Fl. Nep. p. 116.); caule herbaceo, erecto, ramoso, basi tumido, carnoso; foliis petiolatis, lato-ovatis, crenatis, basi cordatis, subglabris, floralibus bracteiformibus, ovato-cuneatis, pedicello brevioribus; racemis laxis, paniculatis; verticillastris laxis, secundis, paucifloris; calycibus fructiferis declinatis, ovatis, dente superiore ovato, acuminato, non decurrente, inferioribus longioribus, lanceolatis, acutis, infimis basi cum lateralibus, ultra medium invicem connatis; corollâ calyce triplò longiore, basi infrà subgibbosâ, tubo refracto, fauce inflatâ, staminibus exsertis.—*Ocymum mayporense*, Roth. Nov. Pl. Sp. p. 271. *Plectranthus maypurensis*, Spr. Syst. 2. p. 691. *P. secundus*, Roxb. Hort. Beng. p. 45?

Radix tuberosa. Caulis basi crassus, carnosus, hinc indè tumidus, tenuitèr pubescens. Folia 2—3-pollicaria, cano-pubescentia, subcarnosa, eglandulosa. Racemi 4—6-pollicares, basi ramosi, ad apicem caulis laxè paniculati. Verticillastri laxiflori, pedunculo communi utrìnque subnullo, ramis abbreviatis, pedicellis 4—8-linearibus. Calyces per anthesin minuti, fructiferi 4 lineas longi, vel ultrà, membranacei. Corollæ labium superius brevissimè 4-dentatum, inferius longius, latum, concavum.

Hab. Napalia, Mysore.

2. *P. subincisus;* caule herbaceo, erecto, ramoso, vix carnoso; foliis petiolatis, lato-ovatis, inciso-dentatis, basi cordatis, glabriusculis; floralibus bracteiformibus, ovatis, pedicello brevioribus; verticillastris laxis, secundis, paucifloris; calycibus fructiferis declinatis, ovatis, dente superiore ovato, subdecurrente, inferioribus longioribus, lanceolatis, acutis, infimis basi cum lateralibus, ultra medium inter se connatis; corollâ calyce quadruplò longiore, tubo tenui, basi infrà subgibboso, medio refracto, fauce subinflatâ; staminibus corollâ brevioribus.

A *P. cordifolio* differt staturâ minore, caule minùs carnoso, foliis profundè crenatis, subincisis, corollis longioribus, angustioribus, calycis dente superiore latiore, obtuso, subdecurrente.

Hab. Courtallum.

To this section belong the whole of the New Holland, African and Madagascar *Plectranthi*, with the exception of the *P. fruticosus*, and perhaps one or two from Madagascar, which constitute the section *Germanea.*

§ 2. *Euplectranthus.* Calyx fructifer declinatus, æqualitèr 5-dentatus, vel sæpiùs bilabiatus, labio superiore e dentibus tribus, inferiore e duobus, constante.

3. *P. scrophularioides* (Wall. MSS.); caule herbaceo, erecto, ramoso, subglabro; foliis longè petiolatis, lato-ovatis, crenatis, basi rotundatis, inæqualitèr cordatis vel subattenuatis, floralibus minutis, deciduis; paniculis laxis, bracteis lanceolatis, minutis; calycibus fructiferis declinatis, profundè bilabiatis, inflatis, labio superiore adscendente, tridentato, inferiore concavo, porrecto, brevitèr bidentato, dentibus omnibus obtusis; corollis inflatis, suprà gibbosis, calyce subtriplò longioribus; staminibus exsertis.

Caulis 3—4-pedalis, ramosissimus, subcarnosus, angulis pubescentibus. Folia palmaria, subcarnosa, basi sæpiùs inæqualitèr cordata, nunc rotundata vel attenuata, suprà hispidula, subtùs glabra, glandulosa, nervis elevatis, carnosis, pubescentibus; petioli inferiorum semipedales vel ultrà, superiorum breviores, nunc brevissimi. Cymi laxi, pedunculo communi semipollicari, ramis 1—2-pollicaribus, pedicellis 4—5-linearibus, racemos paniculiformes, basi ramosos formantes. Calyx tenuissimè pubescens, submembranaceus, nervosus, ferè *Scrophulariæ*. Corolla, teste Wallichio, ex albo rosea, uti tota planta inodora. Labium superius adscendens, quadrifidum, lobis crenulatis, inferiore angustiore, longiore, integro. Filamenta basi villosa.

Hab. Napalia, Kamaon.

4. *P. oblongifolius* (Wall. MSS.); caule herbaceo, adscendente, ramoso, glabro; foliis petiolatis, oblongis, dentatis, utrìnque attenuatis, suprà hispidulis, subtùs glabris; paniculis laxis, ramosis, multifloris; foliis floralibus bracteisque minutissimis subnullis; calycibus declinatis, vix bilabiatis, obtusè 5-dentatis, per anthesin ovatis, striatis, fructiferis lagenæformibus, basi inflatis, ore contracto; corollis vix gibbosis, declinatis, calyce triplò longioribus; staminibus corollâ brevioribus.

Caulis 3—4-pedalis, non carnosus, ferè omninò glaber. Folia extra petiolum pollices 4—6 longa, 2 pollices lata, valdè acuminata et basi longè attenuata, subtùs glandulosa. Racemi paniculiformes, secundi, paniculato-ramosi. Cymi laxi, pedunculo communi semipollicari, ramis gracilibus, utrìnque 3—4-floris. Calyx glaber, striatus, glandulis rubris obtectus, per anthesin minutus, fructifer basi valdè inflatus, submembranaceus, nervosus, lineas 3 longus. Corolla 3-linearis, tubo subinflato.

Hab. Napalia.

5. *P. striatus;* caule herbaceo, erecto, ramoso, subglabro; foliis subsessilibus, ovatis, acuminatis, crenatis, basi cuneatis, rigidis, suprà hispidis, subtùs glabris, densè glandulosis; paniculis laxis, ramosissimis, multifloris; foliis floralibus ovatis, pedunculo multò brevioribus, supremis bracteisque minutis; calycibus declinatis, oblongis, subbilabiatis, dentibus obtusis, vix inæqualibus, fructiferis incurvis, striatis, glabris, glandulosis; corollis basi suprà subgibbis, declinatis, calyce quadruplò longioribus; staminibus brevitèr exsertis.

Caulis 2—3-pedalis, glaber vel tenuissimè cano-pubescens. Folia pollices 2 longa, sesquipollicem lata, superiora minora, suprema minuta. Racemi paniculiformes, vix secundi, paniculato-ramosissimi. Cymi laxi, pedunculo communi sæpè pollicari vel ultrà, ramis gracilibus elongatis. Calyx fructifer non inflatus sed valdè incurvus, basi declinatus, ore adscendente, profundè striatus. Corolla lineas 3 longa, tubus elongatus tenuis, labium superius brevè adscendens, extùs glandulosum, inferius ovatum, concavum. Stamina brevitèr, stylus longè exserta. Achenia rugoso-punctata.

Hab. Sillet.

6. *P. hispidus;* caule herbaceo, erecto, ramoso, pubescente; foliis subsessilibus, ovatis, acuminatis, dentatis, basi cuneatis, rigidis, suprà hispidis, subtùs pubescentibus, densè glandulosis; paniculis laxis, ramosissimis, multifloris; foliis floralibus ovatis, pedunculo multò brevioribus, supremis bracteisque minutis; calycibus declinatis, oblongis, obtusè 5-dentatis, fructiferis bilabiatis, vix incurvis, hispidissimis; corollis basi suprà subgibbis, calyce quadruplò longioribus; staminibus corollâ vix longioribus.

β. glabrior.

Statura et habitus *P. striati,* a quo differt pubescentiâ, et præsertìm calycibus basi subinflatis, minùs incurvis, bilabiatis, pilis articulatis densissimè obtectis.

Hab. Sillet. *β.* Napalia.

7. *P. Gerardianus;* caule herbaceo, erecto, subramoso, subglabro; foliis ovatis, acuminatis, crenatis, suprà hispidulis, subtùs glabris, parcè glandulosis, inferioribus petiolatis, basi attenuatis, superioribus subsessilibus, basi cordatis, floralibus pedunculo brevioribus, supremis bracteisque minutis; racemis paniculiformibus, vix ramosis; cymis laxis, gracilibus, multifloris; calycibus declinatis, oblongis, bilabiatis, dentibus obtusis, fructiferis incurvis, striatis, glabris, vix glandulosis; corollis basi suprà subgibbis, calyce quadruplò longioribus.—*Hyssopus lophanthoides,* Don. Prod. Nep. p. 110.

Affinis *P. striato.* Differt staturâ minore, foliis membranaceis, majoribus, racemo subsimplici, rachi pubescente. An mera varietas?

Hab. Kamaon.

8. *P. Coëtsa* (Don. Prod. Nep. p. 117.); caule herbaceo, erecto, ramoso, cano-pubescente; foliis petiolatis, ovatis, utrìnque attenuatis, medio crenatis, suprà hispidulis, subtùs pubescentibus, tenuissimè glandulosis, floralibus inferioribus conformibus, supremis minutis; bracteis minutissimis, setaceis; paniculis ramosissimis, multifloris; calycibus declinatis, oblongis, bilabiatis, dentibus ovatis, acutiusculis, subæqualibus, fructiferis incurvis, striatis, cano-pubescentibus, vix glandulosis; corollis basi suprà gibbis, tubo refracto, calyce subtriplò longioribus.—*Ocymum Coëtsa,* Spr. Syst. Cur. Post. p. 223.

Caulis 2—3-pedalis. Folia sæpiùs bipollicaria, longè acuminata, rugosula, suprà viridia, subtùs sæpè canescentia. Panicula ampla, multiflora, canescens. Racemi paniculiformes, secundi, ramosissimi. Cymi graciles, laxi, multiflori, pedunculo communi 3—4-lineari ramisque filiformibus. Corolla cœrulea, labiis profundis, patentibus, superiore quadridentato, inferiore integro, concavo, porrecto. Stamina corollâ breviora. Stylus exsertus. Filamenta omnia libera, nec basi connata ut vult Don. l. c.

Hab. Napalia, Kamaon, Taong Dong mons Avæ.

9. *P. menthoides;* caule herbaceo, erecto, ramoso, cano-pubescente; foliis petiolatis, ovatis, utrìnque attenuatis, grossè dentatis, pubescentibus, floralibus conformibus, minoribus, supremis bracteisque minutis; racemis paucifloris, laxiusculis, subpaniculatis, calycibus fructiferis declinatis, oblongis, incurvis (?), cano-pubescentibus, dentibus acutiusculis, supremo latiore; corollis basi suprà subgibbis, tubo vix refracto, fauce inflatâ; staminibus corollâ brevioribus, antheris subbilocularibus.

Habitu *P. Coëtsæ* affinis, sed racemis parvis, paucifloris, corollis vix refractis, antherisque subbilocularibus distinctus. Specimina in herbario vix fructifera.

Hab . . . . Herb. Wight.

10. *P. rugosus* (Wall. MSS.); caule fruticoso, erecto, ramis pube stellatâ incanis; foliis petiolatis, ovatis, obtusis, crenulatis, basi rotundatis, suprà pubescentibus rugosis, subtùs cano-tomentosis, reticulato-nervosis, floralibus conformibus, supremis pedunculo brevioribus; cymis laxis, secundis, racemosis; bracteis minutis; calycibus declinatis, oblongis, vix bilabiatis, dentibus lanceolatis, acutis, subæqualibus, fructiferis subincurvis, striatis, pubescentibus; corollis calyce duplò longioribus, tubo suprà gibbo, refracto, staminibus corollâ brevioribus.—*Ocymum densiflorum,* Roth. Nov. Pl. Sp. p. 275?

β. tomentosus; foliis acutioribus cauleque densè rufo-tomentosis. An species distincta?

Frutex ramosissimus, cortice laxo, griseo, ramis tetragonis, densè pubescentibus. Folia vix uncialia, sæpiùs semiuncialia, exactè ovata, more *Salviæ officinalis* rugosula, subtùs in speciminibus cultis pallida, in spontaneis candidissima. Cymi utrìnque sub-5-flori, inferiores folio breviores, pedunculo communi 3—4-lineari, ramis brevibus, pedicellis 3—4-linearibus. Flores ferè *P. Coëtsæ,* at corolla minor, alba vel pallidissimè cœrulescens: calyx fructifer paullò major.

Hab. Choor. *β.* . . . Herb. Wight.

11. *P. repens* (Wall. MSS.); caule basi repente, radicante, adscendente, subsimplici, hirsuto; foliis petiolatis, ovato-rotundatis, obtusis, grossè crenatis, basi rotundatis vel cordatis, utrìnque hirsutis, subtùs glandulosis, floralibus inferioribus ovatis, sessilibus, supremis bracteisque minutis; racemo laxo, subsimplici, cymis pedunculatis; calycibus fructiferis, declinatis, oblongis, subincurvis, striatis, glabris, dentibus vix inæqualibus, lanceolatis, acutis; corollis calyce subtriplò longioribus, basi suprà gibbis; staminibus corollâ brevioribus.

Planta humilis, semipedalis pedalisve, ex omni parte pilis longis articulatis vestita. Folia ad basin caulis approximata, infima longè petiolata, suprema subsessilia. Racemus subnudus, simplex, vel basi ramosus. Cymi inferiores distantes, pedunculo communi semipollicari, racemis pedicellisque gracilibus, elongatis, glabris, superiores approximati, breviores, densiores, subsecundi. Flores magnitudine *P. striati,* sed corolla suprà magis gibba.

Hab. Napalia.

12. *P.? montanus;* caule herbaceo, erecto, supernè ramoso, tomentoso-villoso; foliis brevitèr petiolatis, ovatis, obtusis, crassis, rugosis, densè tomentosis; verticillastris subdistinctis, densis, multifloris; calycibus fructiferis declinatis, incurvis, tomentosis, subæqualitèr obtusè 5-dentatis, ...—*Ocymum montanum,* Herb. Wight.

Herba videtur pedalis. Caulis basi glaber, crassus. Folia inferiora in speciminibus desunt, superiora opposita, parva, densè rufo-tomentosa. Panicula ferè *P. ternifolii* sed minor. Calyx declinatus, incurvus nec teres, erectus. Corollam non vidi.

Hab. . . . . Herb. Wight.

§. 3. *Pyramidium.*—Calyx fructifer erectus, cylindricus, æqualitèr 5-dentatus.

13. *P. ternifolius* (Don. Prod. Nep. p. 117); caule herbaceo (?), erecto, subramoso, tomentoso-villoso; foliis ternatìm verticillatis, subsessilibus, lanceolato-oblongis, acuminatis, serratis, basi crenatis, rugosis, villosis; paniculis ramosis, densè pyramidatis, multifloris, tomentoso-lanatis; calycibus fructiferis cylindricis, erectis, striatis,

æqualitèr 5-dentatis; corollis suprà gibbis, refractis, calyce subtriplò longioribus; staminibus corollam æquantibus.—*Ocymum ternifolium*, Spr. Syst. Cur. Post. p. 224.; non *P. ternatus*, Sims Bot. Mag. v. 51. t. 2460.

Caules stricti, 2—3-pedales, sexangulares, undiquè densè rufo-villosi vel tomentosi. Folia pollices 3—5 longa, pollicem lata, suprà elevato-rugosa, villosula, subtùs venosa, pilis stellatis, rufo- vel cano-tomentosa; floralia conformia, minora, suprema minuta. Racemi rarò subsolitarii, sæpiùs numerosi, stricti, paniculam densam, elongato-pyramidatam formantes. Verticillastri densi, secundi, multiflori, cymis ternatìm verticillatis, vel sæpiùs uno abortiente oppositis, pedunculo communi lineas 2, ramis lineas 4—5 longis, pedicellis brevissimis. Bracteæ lineares, minutæ. Calyces per anthesin campanulati, fructiferi elongati, tubulosi, stricti, densissimè villosi, dentibus ovatis, obtusis. Corolla extùs villosissima, labio superiore patente, 4-dentato, inferiore ovato, concavo. Filamenta libera nec basi connata ut apud Don. l. c.

Hab. Napalia, Kamaon, et Taong Dong Avæ.

XLII. GENIOSPORUM, *Wall. MSS.—Benth. in Bot. Reg. ad calc. n.* 1300.

Calyx ovato-tubulosus, margine membranaceus, irregularitèr 5-dentatus, fructifer suberectus, rariùs declinatus, dentibus patulis vel inferioribus inflexis, basi sæpissimè transversè rugosus. Corolla tubo calycem vix æquante, bilabiata, labio superiore quadrifido, inferiore integerrimo, subplano. Stamina 4, declinata. Filamenta libera, edentula. Antheræ ovato-reniformes, loculis confluentibus. Stylus apice bifidus, lobis sæpiùs dilatato-complanatis, stigmatibus submarginalibus.—Herbæ perennes vel annuæ. Verticillastri multiflori, laxè spicati, spicis subsimplicibus. Folia floralia basi sæpiùs cartilaginea, alba vel flavescentia.—Genus quoàd corollæ formam *Ocymo* vel *Moschosmæ* affine, sed calyce, stylo et habitu diversum.

1. *G. strobiliferum* (Wall. MSS.); caule erecto, ramoso; foliis subsessilibus, oblongis, utrìnque attenuatis, dentatis, suprà hispidulis, subtùs glabriusculis; verticillastris multifloris, ad apicem ramorum spicatis, infimis subremotis; foliis floralibus ovatis, acuminatis, flores superantibus; calycibus fructiferis erectis, strictis, tubulosis, basi transversè rugosis, ore membranaceo, erecto-patente, irregularitèr 5-dentato.—*Plectranthes colorata*, Don. Prod. Nep. p. 116.

Caulis basi fruticosus, ramis elongatis, erectis. Folia caulina 2—3-pollicaria, basi in petiolum brevissimum attenuata, superiora et floralia minora, basi sæpiùs alba. Racemi spiciformes, 3—4-pollicares. Calyx sæpiùs subbilabiatus, fructifer lineas 3 longus, labii superioris dente medio ovato, obtuso, lateralibus minutis, labio inferiore breviore, bidentato. Corolla vix calyce longior; labium superius latè 4-fidum; inferius sub-brevius, angustè lanceolatum. Stamina corollâ subbreviora.

Hab. Napalia, Sillet.

2. *G. parviflorum;* caule erecto, ramoso; foliis oblongo-lanceolatis, acutis, utrìnque attenuatis, serratis, strigoso-hispidulis; verticillastris multifloris, laxè racemosis; calycibus pedicellatis, fructiferis declinatis, basi transversè rugosis, ore bilabiato, labio superiore tridentato, dente medio majore, inferiore integerrimo, inflexo, calycem claudente.

Caulis herbaceus, pedalis sesquipedalisve, infernè glaber, supernè pilis raris, adpressis hispidulus, ad axillas foliorum fasciculo pilorum munitus. Folià in petiolum brevem attenuata, acuminata, irregularitèr et acutè dentata, basi cuneatâ integerrima, suprà et ad nervos strigoso-hispidula; floralia acuminata, floribus subbreviora, suprà glaberrima, albida, subtùs hispidula. Racemi 3—6-pollicares. Verticillastri laxi, subremoti, 15—20-flori. Pedicelli calyce longiores, erecti, graciles, glabri. Calyces fructiferi vix 2 lineas longi, basi hispiduli, labiis membranaceis, glabris. Corolla parva. Stamina exserta.

Hab. Sillet.

3. *G. prostratum*; caule basi prostrato, ramisque adscendentibus hispidis; foliis petiolatis, oblongo-lanceolatis, inferioribus subovatis, supremis lanceolato-linearibus, serratis, basi attenuatis; verticillastris multifloris, spicatis, inferioribus subremotis; calycibus pedicellatis, fructiferis declinatis, basi striatis, transversè subrugosis, ore membranaceo, irregularitèr bilabiato, labio superiore tridentato, dente medio majore, inferiore erecto, bidentato.—*Ocymum prostratum*, Linn. Mant. p. 566. *O. menthoides*, Willd. Sp. 3. p. 116., an Linn. Mant. p. 84? *Lumnitzera prostrata*, Spr. Syst. 2. p. 687.

Caulis prostratus, ramosissimus, hispidus, angulis subcallosis, glaberrimis. Folia parva, semipollicem ad pollicem longa, 3—4 lineas lata, acutè et remotè serrata. Racemi pollices 2—4 longi, spiciformes. Verticillastri 10—20-flori, inferiores remotiusculi, supremi approximati. Folia floralia minuta, ovata, acuta, sessilia, basi albida, submembranacea. Pedicelli calyce longiores, graciles, erecti vel subincurvi. Calyces parvi, fructiferi vix sesquilineam longi, basi striati, hispiduli, supernè contracti, ore dilatato, membranaceo. Corolla minuta, calyce vix duplò longior, tubo brevissimo, incluso. Stamina brevitèr exserta.

Hab. Madras.

4. *G. axillare;* caule ramoso, glabro; foliis brevitèr petiolatis, ovatis, obtusis, crenatis, basi cuneatis, glabris, floralibus conformibus; verticillastris remotis, 6—10-floris, calycibus brevitèr pedicellatis, elongatis, tubulosis, basi angulatis, hispidis, supernè contractis, ore membranaceo, dilatato, labio superiore 3-dentato, inferiore 2-dentato.

Caulis videtur erectus vel adscendens. Folia pollicem vel sesquipollicem longa, lineas 6—8 lata, nervosa. Pedicelli calyce subbreviores. Calyx fructifer lineas 3—3½ longus. Corolla calycem vix excedens.—Specimina in herbario imperfecta.

Hab. Napalia.

XLIII. ACROCEPHALUS, *Benth. l. c.*

Calyx ovatus, bilabiatus, labio superiore integro, inferiore integro vel 4-dentato, fructifer tubulosus, basi gibbus. Corolla calycem subæquans, bilabiata, labio superiore quadrifido, inferiore integro, subplano. Stamina 4, declinata. Filamenta libera, edentula. Antheræ ovato-reniformes, loculis confluentibus. Stylus apice brevitèr bifidus, lobo inferiore subdilatato, complanato, stigmatibus marginalibus.—Herbæ annuæ, floribus densè globoso-capitatis.

1. *A. capitatus* (Benth. l. c.); caule basi procumbente, ramosissimo, ramis adscendentibus, glabris, vel utrìnque lineâ pilosâ notatis; foliis oblongis, ovatis, remotè serratis, basi integerrimis, glabris; capitulis ovato-globosis; foliis floralibus duobus sub capitulo ovatis, subsessilibus isto longioribus, cæteris in capitulo minutissimis; calycis labio inferiore quadridentato.—*Ocymum capitatum*, Roth. Nov. Pl. Sp. p. 276. *O. capitellatum*, Linn. Mant. 276? *Lumnitzera capitata*, Spr. Syst. 2. p. 687.

Hab. Napalia; Monghir, Gualpara; Travancore, Courtallum; Taong Dong.

XLIV. ANISOCHILOS, *Wall. MSS. Benth. l. c.*

Calyx ovatus, obliquus vel bilabiatus, labio superiore subintegro, post anthesin deflexo, calycem claudente, inferiore integro, truncato vel brevissimè 4-dentato. Corolla tubo exserto, refracto, fauce subinflatâ, bilabiata, labio superiore 3—4-fido, inferiore integro, concavo. Stamina 4, declinata. Filamenta libera, edentula. Antheræ ovato-reniformes, loculis confluentibus. Stylus apice subulatus, æqualitèr bifidus, stigmatibus minutis.—Herbæ, floribus densè imbricato-spicatis, foliis floralibus bracteiformibus.

1. *A. carnosum* (Wall. MSS.); caule erecto, ramoso; foliis petiolatis, ovato-rotundatis, obtusis, crenatis, basi cordatis, crassis, carnosis, utrìnque tomentoso-villosis; spicis longè pedunculatis; foliis floralibus ovatis, obtusis; calycis labio superiore ovato, acuto, membranaceo, margine ciliato, super labium inferius truncatum deflexo.—*Lavandula carnosa*, Linn. *Plectranthus dubius*, Spr. Syst. 2. p. 691. *P. strobiliferus*, Roxb. Hort. Beng. p. 45.

Caulis bipedalis, tetragonus, villosus, supernè subnudus. Spicæ longè pedunculatæ, vix paniculatæ, fructiferæ 1—2 pollices longæ, semipollicem crassæ, regularitèr cylindricæ. Calyx fructifer basi subinflatus, ad os contractus, tenuitèr rufo-tomentosus. Corolla calyce duplò longior, labio inferiore elongato, concavo, stamina excedente.

β. purpurascens; spicis glabriusculis, purpurascentibus.

Hab. *α.* in montibus Circarensibus. *β.* Taong Dong.

2. *A. pallidum* (Wall. MSS.); caule erecto, ramoso; foliis petio-

latis, oblongo-ellipticis, crenatis, utrinque attenuatis, membranaceis, vel vix carnosis, glabriusculis; spicis paniculatis; foliis floralibus lanceolato-acuminatis; calycis labio inferiore obliquè truncato, brevissimè 4-dentato, superiore lanceolato, acuto, post anthesin deflexo.

Statura *A. carnosi.* Folia pollices 3—6 longa, 1—3 lata, acuminata, grossè crenata, suprà vix hispidula, subtùs ferè glabra. Spicæ pedunculatæ, laxè paniculatæ, tenuiores quàm in *A. carnoso.* Calyces fructiferi ferrugineo-tomentosi, basi subinflati, supernè incurvi, ore obliquo, labio superiore parvo, acuto. Corolla ferè *A. carnosi* sed tenuior.

Hab. Taong Dong.

3. *A.? polystachyum;* caule erecto, ramoso; foliis subsessilibus, ovato-oblongis, acuminatis, serratis, basi cuneatis, tenuissimè pubescentibus, subtùs nervosis, spicis paniculatis, calycibus supernè incurvis, ore obliquo, 5-dentato, dente supremo vix longiore.

Habitus *A. pallidi.* Caulis obtusè tetragonus, brevissimè tomentosus. Folia 2—4-pollicaria, suprà tenuissimè pubescentia, subtùs nervosa, minutè glandulosa, rufescentia, rigidiuscula. Spicæ 2—3-pollicares, semipollicem crassæ. Calyx rufo-tomentosus, basi inflatus, supernè contractus, elongatus, incurvus, ore obliquè fisso, dentibus 5, brevibus, acutis, supremis incumbentibus. Corollam non vidi, sed ob habitum et calycis formam plantam hùc retuli.

Hab. Napalia.

4. *A. dysophylloides;* caule sericeo, villoso, basi procumbente, ramis adscendentibus; foliis subsessilibus, oblongo-lanceolatis, obtusis, integerrimis, basi attenuatis, spicis axillaribus terminalibusque, subpedunculatis; foliis floralibus ovatis, acutis; calycis labio inferiore minuto, truncato, superiore acuto, deflexo.

Habitus ferè *Dysophylli rugosi.* Ex omni parte pilis mollibus, rufescentibus, sericeis densè vestitum. Folia pollicem vel sesquipollicem longa, lineas 4—6 lata. Spicæ floriferæ regularitèr cylindricæ, fructiferæ irregularitèr tumidæ, pollices 1—2 longæ, crassitie calami scriptorii. Calyces fructiferi basi inflato-tumidi, supernè incurvi, ore contracto, labio superiore brevi, acuto, concavo, incumbente. Corolla brevior quàm in *A. carnoso* et *pallido,* lobis latioribus. Stamina exserta.

Hab. . . . Herb. Wight.

XLV. CHÆTOSTACHYS, *Benth. MSS.*

Calyx ovato-tubulosus, erectus, subincurvus, 15-nervius, subæqualitèr 5-dentatus, intùs fauce nudâ. Corolla tubo exserto, bilabiata, labiis brevissimis, superiore emarginato, inferiore trifido. Stamina 4, declinata, tubo inclusa. Filamenta libera, edentula. Antheræ ovato-reniformes, loculis confluentibus. Stylus apice subinfundibuliformi-bifidus, lobis brevibus, complanatis, concavis, stigmatibus marginalibus. Achenia compressa, margine callosa.

1. *C. multifida.—Bysteropogon bipinnatus,* Roth. Nov. Pl. Sp. p. 255. *Mentha pinnatifida,* Heyne MSS. *Lavandula multifida,* Burm. Fl. Ind. p. 126? non ejusd. ic. t. 38. f. 1. nec Linn.

Caulis herbaceus (?), erectus, tetragonus, ad nodos contractus, tenuitèr tomentoso-pubescens. Folia sessilia, bipinnatifida, laciniis elongato-linearibus, obtusis, integerrimis, margine revolutis, subtùs tomentoso-pubescentibus. Flores in spicam terminalem, ramosam dispositi, solitarii ex axillis bractearum alternarum!, membranacearum, basi dilatatarum, longissimè setaceo-acuminatarum. Calyx sessilis, 15-striatus, canescens, dentibus acutis, fructifer turgidus. Corolla tenuis, calycem excedens. Limbus videtur subæqualitèr 5-fidus, sed in speciminibus vix ritè examinare potui. Stamina *Lavandulæ.* Ovarium basi infrà ut in plerisque *Ocymoideis* glanduliferum. Achenia aquâ immersa extùs, ut in *Hyptidibus* plurimis, gelatinosa.

This plant, so remarkable by the alternate inflorescence, is closely allied to the *Lavandulæ** of the section of *Pterostachys* of de Gingins. This character however, together with the 15-nerved calyx, the nearly regular corolla, and the form of the fruit, are differences which appear to me to be sufficient to warrant its separation as a distinct genus.

ADDENDA ET CORRIGENDA.

Teucriis addatur:

T. Wallichianum; caulibus e basi radicante subsimplicibus, adscendentibus, rufo-tomentosis; foliis ovatis, acutis, serratis, in petiolum longè attenuatis, utrinque hispidulis; verticillastris multifloris, in spicam terminalem approximatis; calycibus hispidis, ore subdilatato, dentibus ovatis, acutis, subæqualibus.

Affine *T. Arduini,* sed characteribus datis distinctissimum.

Hab. Sillet.

Perilla elata, Don. Prod. Nep. p. 115, is my *Aphanochilus blandus.*

Perilla polystachya, Don. l. c., which I had (*suprà,* Vol. 1. p. 39.) referred with doubt to *Aphanochilus blandus,* appears from Dr. Hamilton's specimens to be my *Pogostemon glabrum,* unless there be some error in the labels.

Perilla leptostachya, Don. l. c. is my *Aphanochilus fœtens.*

Mentha quadrifolia, Don. l. c. p. 113. (non Roxb.) is my *Dysophylla cruciata.*

Thymus nepetoides, Don. l. c. is the *Nepeta ruderalis* Hamilt.

Thymus piperitus, Don. l. c. p. 112, as well as his *T. origanifolius,* belong to my *Clinopodium longicaule.*

Scutellaria repens, Don. l. c. p. 110. is my var. *β.* of the *Sc. cana,* Wall.

My *Scutellaria angulosa* (*suprà,* Vol. 1. p. 67.) must be referred to the *Sc. scandens,* Don. l. c. p. 110

The other synonyms of Don's Prodromus which are given with doubt in the course of the preceding Synopsis are all correctly quoted.

The *Teucrium laxum,* Don. l. c. p. 108. is a distinct species not contained in Dr. Wallich's collections.

The *Salvia ocymoides* Roxb. (*suprà,* Vol. 1. p. 68. must be referred to *Salvia acaulis* Rottl. (Vahl. Enum. 1. p. 257.).

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* *Lavandula* should, on account of its declinate stamina, be referred to *Ocymoideæ,* not to *Nepeteæ,* where I had placed it. My character (*Bot. Reg. l. c.*) requires also some further modification.

END OF *Mr. Bentham's* SYNOPSIS OF INDIAN *Labiatæ.*

ROSA MACROPHYLLA. Tab. 117.

ACULEIS sparsis, compressis; foliis longissimis, petiolis parcè glandulosis foliolisque lanceolatis subtùs lanatis; sepalis angustissimis, petalis apiculatis longioribus.—*Lindl. Rosar. Monogr. p.* 35. *t.* 6. (charact. ab auctore emendat.)

Rosa macrophylla, Lindl. loc. cit.

β. minor foliolis parvis, oblongis, utrinque acutis (nunc apice obtusis) basi integris, floribus solitariis.—*Lindl. in Herb. Coet. Ampl. Mercat. Angl. Ind. Orient.* 690.

γ. *arguta*, foliolis oblongis, acuminatis, cuspidato-serratis; petiolo glanduloso et aculeato; floribus corymbosis. *Lindl. loc. cit.*

Habitat in Himalaya Napalensi, Kamaonensi et Gurwalica. β. in Sirmore Dom. W. S. Webb. γ. ad Gossain Than. Floret mensibus Julii et Augusti.

Frutex magnus, ramosus. Caulis erectus, cylindricus, pollicem ad duos crassus, *rami*que subscandentes coloris castanei, nitidi, armati *aculeis* sparsis, compressis, acutissimis, vix curvis; *ramuli* glaucescentes, subinermes. Folia subdistantia, erecto-patentia, oblonga, 6—10-pollicaria, 3—11-juga; *pinnæ* lanceolatæ, acuminatæ, argutè serratæ, basi acutæ, planæ, suprà nitidæ, glabræ, atrovirides, nunc purpureo-nebulatæ, subtùs præcipuè ad costam cano-villosæ, sublanuginosæ, ferè sessiles, inferiores pollicares ad 1½-pollicares, exteriores multò majores: terminalis 3-pollicaris, longiusculè petiolata. Petiolus *communis* pollicaris vel bipollicaris, tener; *rachis* gracilis, glanduloso-villosa, cana, ætate glabrior, rarò aculeolata. Stipulæ magnæ, membranaceo-foliaceæ, pollicares, lanceolatæ, tenuissimè acuminatæ, longè adnatæ, concaviusculæ, patentes, integerrimæ, rufescentes, densè glanduloso-ciliatæ, ætate nudæ. Flores aliquot terminales, magni, rubri, inodori, nunc unus alterve solitarius in axillis supremis, *pedunculis* insidentes teretibus, villosulis, parcè glanduloso-setosis, bipollicaribus. Bracteæ magnæ, stipulis simillimæ, ad basin pedunculi sæpiùs geminatæ et suboppositæ, rufescentes, glanduloso-ciliatæ, glabriusculæ. Calycis tubus oblongus, levitèr ventricosus, parcè setosus, vel omninò glaber; *laciniæ* perquam longæ, divaricato-patentissimæ, persistentes, lanuginosæ, e basi lato-lanceolata rostrato-attenuatæ, apice foliaceo, lineari-lanceolato, serrato vel integro, nunc minuto. Petala subrotundato-obovata, retusa cum cuspidula, pollicaria, patentissima, laciniis calycinis breviora. Stamina inserta disco carnoso, flavescenti, convexo. Styli numerosi, barbati. Bacca ovalis, pollicaris, ruberrima, setosa, coronata staminibus limboque calycis persistentibus, intùs densè hispida; *semina* magna, ossea, apice barbata.

The preceding description is almost entirely taken from Professor Lindley's admirable Monograph on Roses. The shrub is very large, and would be a great acquisition in this country, where it would beyond a doubt thrive well. Mr. Lindley informs me that his variety γ. *arguta* is possibly a distinct species, and the most European form among the Roses of India, approaching to some varieties of *Rosa mollis*.

Plate CXVII. Fig. 1. Ripe fruit. 2. A piece of the stem.

LYSIONOTUS TERNIFOLIA. Tab. 118.

Lysionotus serrata, Don. Prodr. Nepal. 124.

Chirita ternifolia, Hamilt. apud Don. loc. cit.

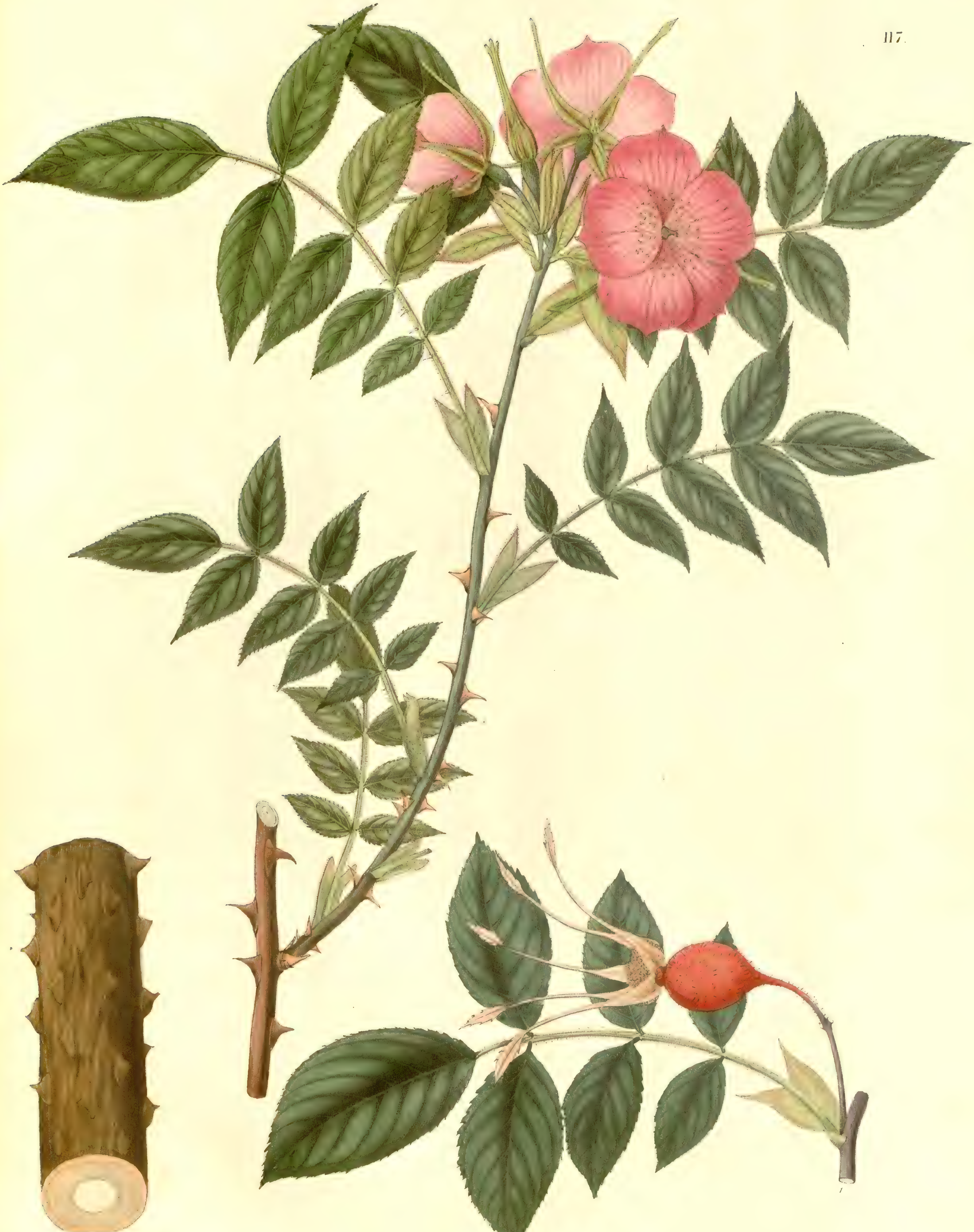
Habitat super truncis arborum saxisque in montibus Napaliæ, florens et fructifera mensibus Augusti—Decembris. In Kamaon, *R. Blinkworth.*

Planta carnosa, erecta, pallidè viridis, pedalis, bipedalis, glabra. Radix subrepens, valdè crassa et carnosa, albicans, lævis, nitida, fibrillosa, supernè parùm divisa. Caules aliquot erecti, simplices, cylindrici, purpureo-punctulati, pennam anserinam crassi. Folia verticillato-ternata, rarò opposita, subapproximata, patentia, lanceolato-oblonga, attenuato-acuminata, serrata, basi acuta, brevè petiolata, 5—7-pollicaria, carnosa, utrinque glabra, suprà nitida, subtùs nervosa, nervis obliquis, gracilibus. Petioli unguiculares, suprà sulcati. Corymbi longè pedunculati, axillares, alternantes, oppositi vel verticillati, foliorum longitudine, glabri, bis tervè trichotomi vel dichotomi. Flores magni, pedicellati, ternati vel geminati, dilutè cœrulei. Pedunculus *communis* gracillimus, nudus, 3—4-pollicaris; *partiales* pollicares, suffulti *bracteis* oppositis, lanceolatis, semiunguicularibus; *pedicelli* unguiculares. Calyx 5-partitus, persistens; *laciniæ* oblongo-lanceolatæ, acutæ. Corolla infundibuliformis, 1½-pollicaris, calycem tèr superans, venosa, pubescens; *tubus* supernè ampliatus; *limbus* patens, bilabiatus; labium superius 2-lobum, inferius 3-lobum, majus: *lobi* subæquales, ovati, obtusi; *faux* ampla, pervia, infernè lineis duabus, elevatis, flavis. Stamina 4; inferiorum *fertilium filamenta* carnosa, complanata, subclavata, parallela, infra apicem subcornutum, obtusum, glanduloso-papillosum antherifera; *antheræ* in fauce, biloculares, transversè ovatæ, levitèr cohærentes. Stamina *sterilia* 2, superiora, subulata, brevia, nuda. Ovarium cylindricum, læve, unguiculare, basi attenuatâ et subpedicellatâ circumdatum disco annulari, brevissimo, flavido. Stylus columnaris, brevis. Stigma orbiculatum, subtruncatum, vix retusum. Capsula lineari-tetragona, digitum ad spithamam longa, lævis, pallidè ferruginea; structurâ et dehiscentiâ omninò *Æschynanthi ramosissimæ* (Vol. 1. p. 55.). Semina copiosissima, minuta, subulata, lævia, fusca, utrinque acuta et terminata pilo longo, simplicissimo, hyalino.

I sent specimens of this beautiful plant to the Museum at the India House in 1824, under the name of *Calosacme polycarpa*. I have now referred the plant to the genus *Lysionotus*, and in justice to Dr. Hamilton I have adopted his specific name, quoted but rejected by the author of the *Prodromus Floræ Nepalensis*.

Plate CXVIII. Fig. 1. Calyx opened. 2. Corolla opened. 3. Fertile stamens. 4. Capsule. 5. The same, divided in the middle. 6. A valve detached. 7. Seed.

117.



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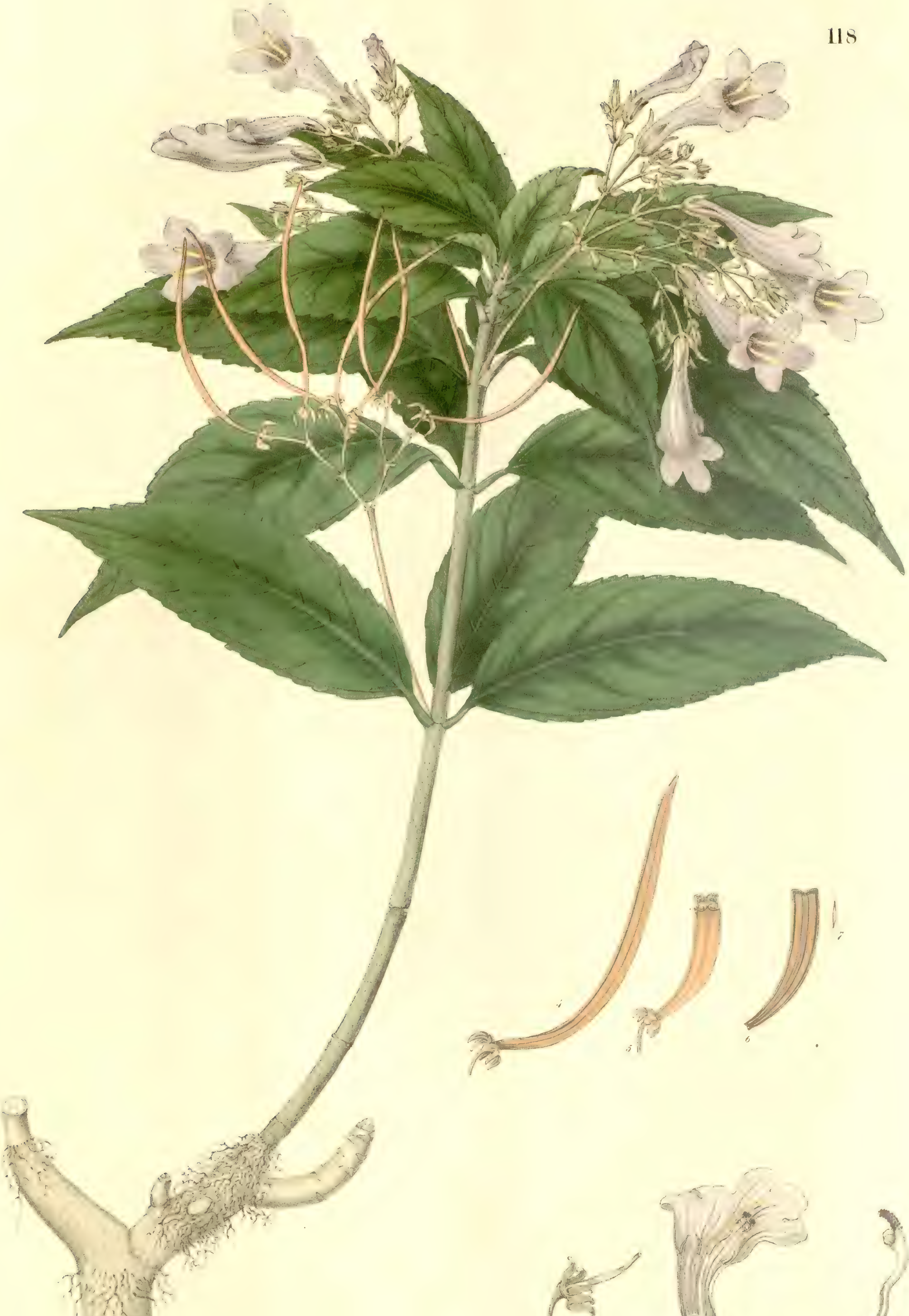
Rosa macrophylla



Lysionotus ternifolia

TURRÆA PINNATA. Tab. 119.

Foliis pinnatis; tubo staminum 10-dentato, dentibus bifidis.

Habitat in montibus Sillet confinibus. In Horto Calcuttensi floret mensibus Februarii et Julii.

Frutex (arbor?). Rami cylindrici, cortice glabro, pallidè fuscescente. Folia petiolata, valdè approximata, sparsa, undique patentia, impari-pinnata, 2—3-juga; *foliola* opposita, patentia, brevissimè petiolata, lanceolata, attenuato-acuta, integerrima, elegantèr undulata, basi parùm cordata et inæqualia, lobis rotundatis, altero breviore, rigida, subcarnosa, haud punctata, utrinque secus tractus vasorum pilosula, suprà atroviridia, lucida, subtùs costâ nervisque alternis elevatis, levitèr venulosa; inferiora pollicaria, exteriora sensìm majora, impar ferè 3-pollicare. Petiolus *communis* teres, pilosulus, basi parùm dilatatus, suprà sulcatus, sesquipollicaris, desinens in *rachin* rectam, teretem, sulcatam; *partiales* brevissimi, teretes, pilosuli. Stipulæ nullæ. Pedunculi solitarii, axillares, teretes, pilosi, pollicares, post expansionem florum decurvi, apice gerentes *flores* aliquot fasciculatos, pedicellatos, pallidè roseos, inodoros, suffultos *pedicellis* brevibus, clavatis, sulcatis. Bracteolæ paucæ, sparsæ, lanceolatæ, acutæ. Calyx profundè 5-partitus, pilosus; *laciniæ* foliaceæ, ligulatæ, inæquales, basi conniventes, apice acutiusculâ patulæ. Corolla tubulosa, sesquipollicaris, limbo patente. Petala 5, plana, lanceolata, subinæqualia, obtusiuscula, patentia, subtùs subsericea, basi angustatâ desinentia in *ungues* longos, connatos in *tubum* cylindricum, gracilem, sulcatum, limbum æquantem, calyce duplò longiorem, basi intùs auctum *tubulo* carnoso, brevissimo, truncato, ovarium et basin styli ambiente. Filamenta 10, glabra, unita in tubum carnosum, cylindricum, unguibus corollæ adnatum, supernè liberum, erectum, limbo breviorem, fauce parùm dilatatum, 10-dentatum, dentibus brevibus, subulatis, versus apicem scorsùm dorso appendiculatis *denticulo* subulato, brevi, patente. Antheræ 10, inter dentes stamineos sessiles, hisce breviores, erectæ, oblongæ, 2-loculares, pilosulæ. Ovarium parvum, ovatum, tubulo appendiculari corollæ inclusum, 5-loculare? 5-spermum? ovulis erectis? Stylus filiformis, longitudine filamentorum. Stigma capitatum, carnosum, intra antheras latens. Fructus haud visus.

My acquaintance with this shrub is limited to some living individuals in the Honourable Company's Botanic Garden at Calcutta, which were sent from the mountains near Sillet by Francis De Silva in 1825, and which blossomed soon afterwards in February and July. I have never received any dried specimens of the plant, nor have I seen the fruit; I am unable therefore to determine the genus with certainty. It seems to be nearly allied to *Trichilia*. The leaves are neither dotted nor have they any aromatic smell; the pinnæ have sometimes a small additional leaflet or appendix attached to or between their bases.

Plate CXIX. Fig. 1. 2. Flower. 3. Calyx and pistil. 4. Corolla opened. 5. Tube of the stamens. 6. The same, opened.

LEYCESTERIA FORMOSA. Tab. 120.

Leycesteria formosa, Wall. in Roxb. Flora Indica, 2. p. 181. Decand. Prodr. Syst. Nat. 4. p. 338.

Having given a full description of this plant in the second volume of Roxburgh's *Flora Indica*, I deem it unnecessary to swell this work by copying it here. It is an exceedingly elegant shrub, growing wild on the highest mountains of Nipal, both near the great valley, and in a more northerly direction; also on those of Kamoon and Sirmore. It blossoms during the rainy season, from April to October, and the fruit ripens in October and November.

Plate CXX. Fig. 1. 2. Flower. 3. Ovary and calyx. 4. Corolla opened. 5. Stamens. 6. Berry. 7. 8. The same, opened. 9. Seed.

UVARIA GRANDIFLORA. Tab. 121.

Scandens; foliis elliptico-oblongis, acuminatis, deorsùm contractis, basi retusis, subsessilibus, subtùs tomentosis; pedunculis oppositifoliis et supra-axillaribus, unifloris, medio instructis bracteâ magnâ, ovatâ, ventricosâ; petalis villosis, subæqualibus, lato-ovatis; baccis pluribus, cylindricis, longè pedicellatis, villosis, obliquè acutis.

Uvaria grandiflora, Roxb. Hort. Beng. p. 43.—*Unona grandiflora*, Decand. Prodr. Syst. Nat. 1. p. 91.

Habitat in Sumatra. In Horto Calcuttensi floret per totum ferè annum. Baccæ maturescunt mense Aprilis.

Frutex magnus, ramosus. Rami valdè longi, subscandentes, teretes, cortice induti fusco, calloso-punctato; *juniores* cum foliis novellis densè ferrugineo-tomentosi. Folia alterna, subapproximata, bifariè patentia, demùm subdeflexa, brevissimè petiolata, elliptico-oblonga, brevè acuminata, deorsùm angustata, basi contractâ retusa, 5—10-pollicaria, plana, suprà lævia, nitida, inter nervos rugosula, subtùs pilis copiosis, stellatis, pallidè ferrugineis tomentosa, costâ nervisque suboppositis, parallelis, obliquis, prominentibus, venosa. Petioli crassi, cylindrici, semipollicares, tomentosi. Flores magni et speciosi, pedunculati, atropurpurei, ferè inodori, solitarii, oppositifolii vel supra-axillares, patentissimi, subnutantes. Pedunculus cylindricus, crassiusculus, tomentosus, petiolo triplò longior, basi articulatus, medio instructus *bracteâ* magnâ, foliaceâ, pallidè viridi, semipollicari, obovatâ, obtusâ, ventricosâ, laxiusculâ, caducâ, aliâque versus basin pedunculi minore, oblongâ. Calyx patenti-subrecurvus, tomentosus, 3-partitus ; *laciniæ* lato-ovatæ, acutiusculæ, concavæ. Corolla plano-patentissima, demùm subreflexa, diametrum plùs quàm bipollicarem emetiens, calyce triplò major ; *petala* 6, serie duplici, alternante disposita, obovata, rotundato-obtusa, basi parùm contracta, pollicaria, interiora tria paullò minora, coriacea, crassa, atropurpurea, suprà nervis parallelis, gracilibus, interque hos guttis transversis, ferè atris subtessellatìm ornata, subtùs saturatiùs colorata, utrinque pube brevi, mollissimâ, canâ obsita. Stamina et Pistilla densissimè aggregata in glomerulum centralem, imbricatum, hemisphæricum, compactum, medio glutinosum, dehiscentiâ antherarum demùm muricatum. Antheræ oblongæ, subsessiles, dorso carnosæ, utrinque longitudinaliter dehiscentes, apice terminatæ ligulâ ovatâ, obtusiusculâ ; *pollen* pallidè flavum. Ovaria centrum glomeruli occupantia, numerosa, gracilia, ferè filiformia, villosa, unilocularia, polyspora. Stigmata mollia et carnosa, mucosa, subarticulatìm apici ovarii imposita, conduplicata, obtusa. Baccæ numerosæ, longè stipitatæ, quarum major pars sæpiùs abortiva et citò dilabescens, oblongo-cylindricæ, digitum minimum ferè crassæ, longitudine inæquales, pollicem 1 usquè ad 4 longæ, levitèr torulosæ, obliquè acutiusculæ, carnosæ, flavæ, tomentosæ, dorso costis duabus, prominentibus, distantibus, parallelis notatæ, transversè multiloculares, ope pedicelli gracilis, carnosi, subangulosi, sesquipollicaris insertæ apici pedunculi communis, elongati et tumefacti convexo, hemisphærico, lignoso, foveolato. Semina plurima, unico lateri adfixa, ovalia, compressa, fusca, lævia, nitida, *dissepimentis* baccæ separata tenuibus, carnosis. Integumentum chartaceum. Perispermum valdè rimosum.

This shrub when in flower is one of the greatest ornaments which the Calcutta Garden possesses ; the flowers being very large, of a dark purple colour, tessellated with black square spots, and opening in succession nearly all the year round. It approaches closely to *Uvaria purpurea* of Dr. Blume, figured and described in the *Flora Javæ* of that most eminent botanist ; a work which for splendour of execution and for scrupulous accuracy of detail is second to none that has ever appeared on botanical subjects.

Plate CXXI. Fig. 1. Flower dissected. 2. Stamens and pistils. 3. A bunch of fruit. 4. A detached bunch of fruit, opened lengthwise.

UVARIA MACROPHYLLA. Tab. 122.

Frutex altissimè scandens ; foliis oblongo-ellipticis, acuminatis, brevè petiolatis, basi cordatis, subtùs ferrugineò tomentosis ; floribus fasciculatis, axillaribus, pedunculatis ; petalis ovatis, acutis, subæqualibus ; baccis pluribus ovali-oblongis, brevè pedicellatis, obtusis, lævibus.

Uvaria macrophylla, Roxb. Hort. Beng. p. 91.

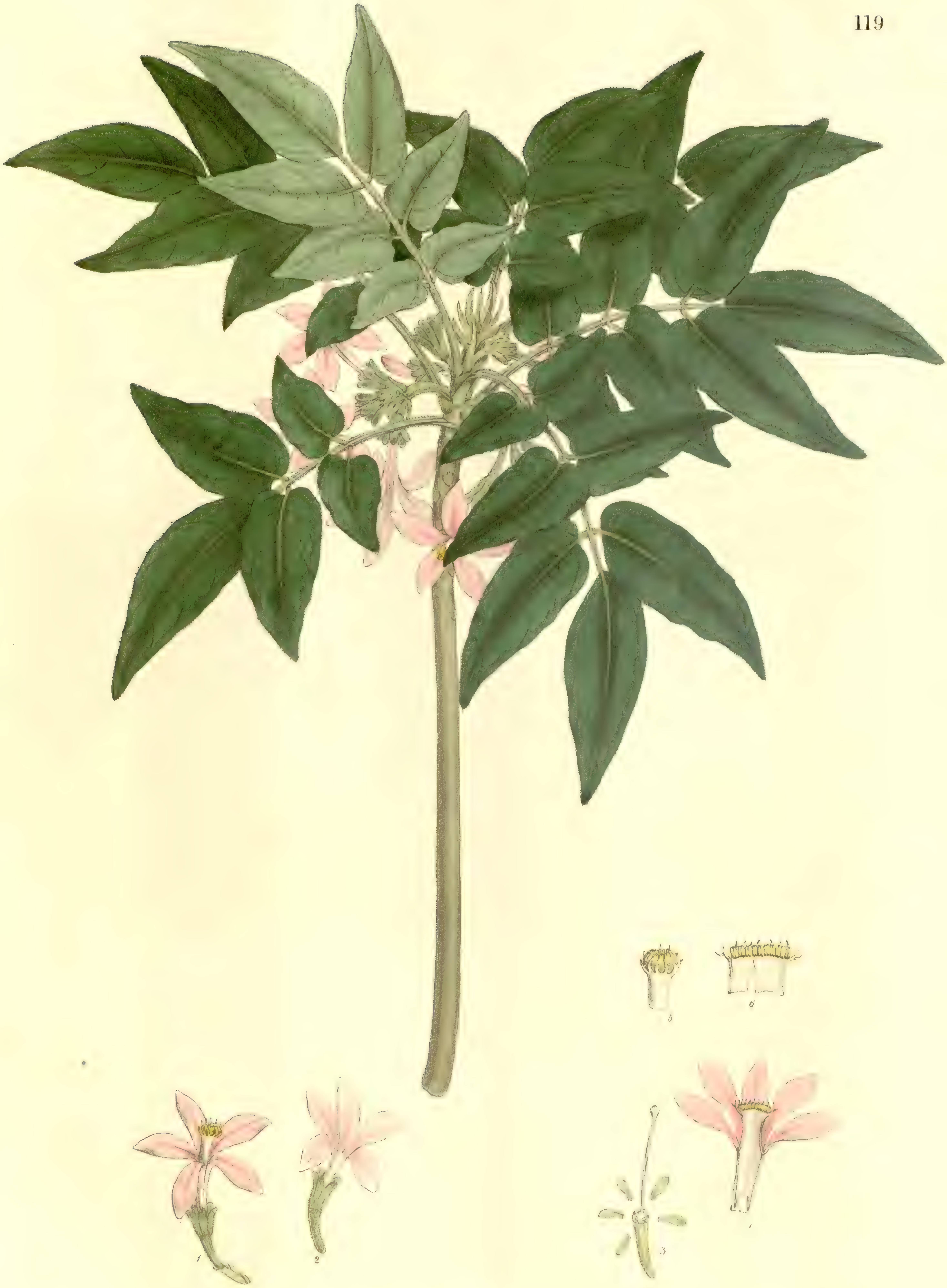
Unona macrophylla, Roxb. MSS.

Habitat in Sillet et Chittagong Bengalæ. In Horto Calcuttensi floret tempore anni humido ; fructus maturescunt mense Decembri.

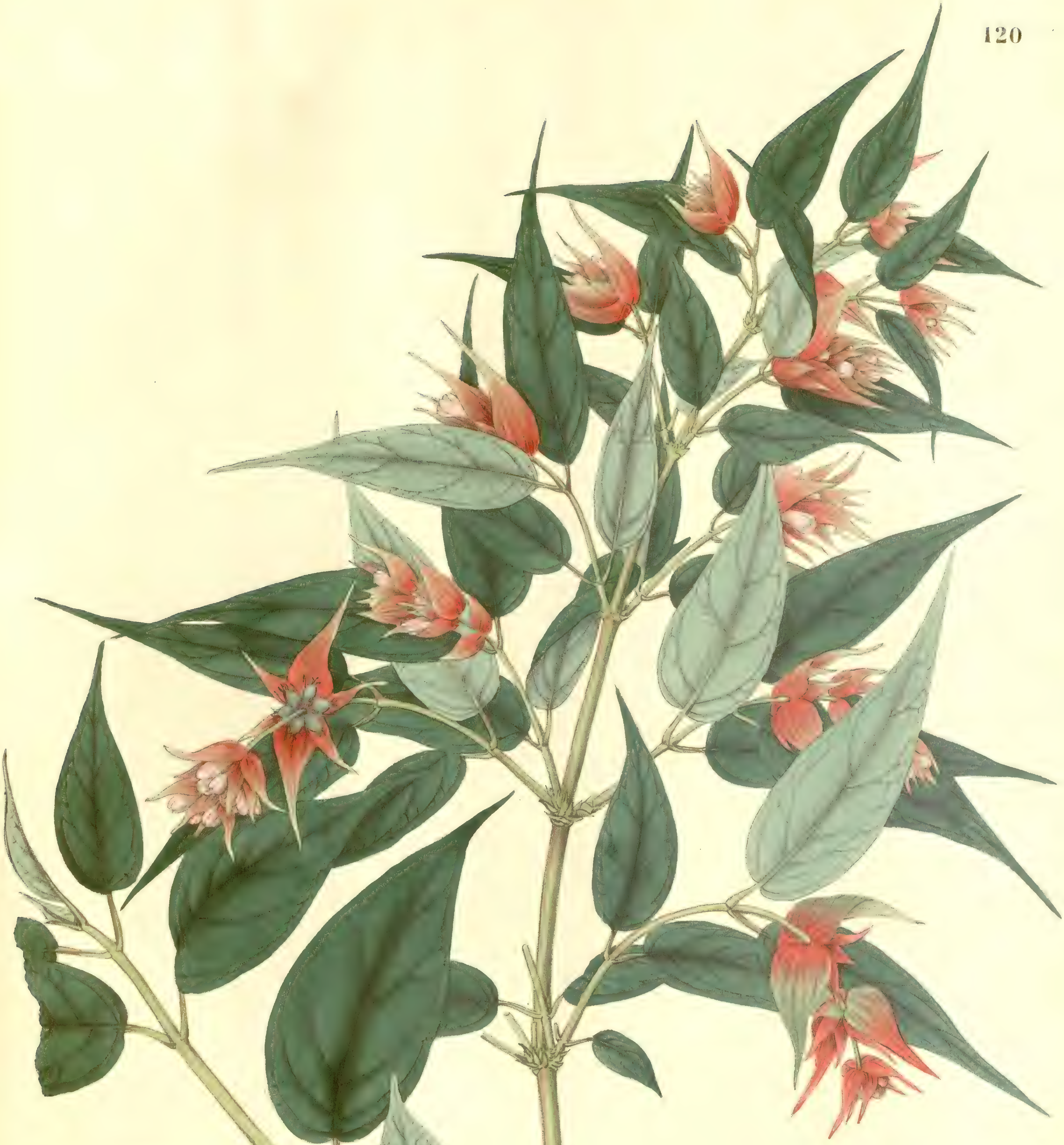
Frutex magnus, altissimè super arbores scandens. Rami longissimi, scandentes vel laxè penduli, cylindrici, glabri, cortice fusco induti ; *juniores* flexuosi, tomentosi. Folia bifariè patentia, alterna, brevè petiolata, oblonga vel oblongo-elliptica, brevè acuminata, basi subcordato-retusa, coriacea, 6-pollicaria ad pedalia, quin ultrà, suprà transversìm rugosa, nitida, glabriuscula, subtùs tomento brevi, stellato, ferrugineo obtecta, costâ validâ, nervis numerosis, parallelis, elevatis, apice arcuato-anastomosantibus, alternis brevissimis ; *juniora* utrinque ferrugineo-tomentosa. Petioli crassi, semicylindrici, tomentosi, semipollicares. Flores pedunculati, axillares, fasciculato-subcorymbosi, patentes, subnutantes, ex fusco lateritii, inodori. Pedunculus *communis* pollicaris, crassus, ferrugineò tomentosus, a vestigiis bractearum demùm annulatus ; *partiales* 3—5, subclavati, valdè approximati, bifarii, nunc subumbellati, ½-pollicares, mediò articulati et bracteati, 1-flori, raro 2-flori. Bracteæ sparsæ, lato-ovatæ, concavæ, acutæ, coriaceæ, caducæ. Calyx patentissimus, ferrugineus, persistens, suffultus bracteâ latâ ; *laciniæ* triangulari-acutæ, suprà concaviusculæ. Corolla plano-patentissima, diametro sesquipollicaris, calyce plùs duplò major ; *petala* 6, ovalia, acuta, basi parùm angustata, utrinque densè villosa, subtùs ferruginea, *interiora* vix minora. Stamina et Pistilla ut in præcedente specie, sed minora. Baccæ plurimæ, ovato-oblongæ, glaberrimæ, carnosæ, flavæ, digitum medium crassæ, pollicem vel duos longæ, utrinque obtusæ, haud torulosæ, pedicello brevissimo insertæ apici pedunculi communis capitato-dilatato, foveolato. Semina plura, semiovata, compressa, fusca, nitida, margine exteriore convexo, interiore angusto, *dissepimentis* separata dimidiatis, tenuibus. Albumen minutè ruminatum. Embryo valdè parvus.

This is a very large, extensively rambling or climbing shrub. When growing near a tree it ascends by means of stout horizontal branchlets, which extend parallel and close to each other, alternately embracing the trunk once or twice, and thus aiding to lift up the larger branches. The flowers are very elegant, but much smaller than those of the preceding species. The leaves are large and handsome ; when rubbed they emit a not unpleasant, slightly aromatic smell, which is generally present also in the other members of the tribe to which this shrub belongs. The pulp of the berry is more aromatic than that of the fruit of *Uvaria grandiflora*.

Plate CXXII. Fig. 1. Fascicle of flower seen from behind. 2. Flower dissected. 3. Part of the tuft of stamens and pistils. 4. Pistil. 5. Contour of a large leaf.



Turraea pinnata.



Gorachand del.
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Leicesteria formosa.

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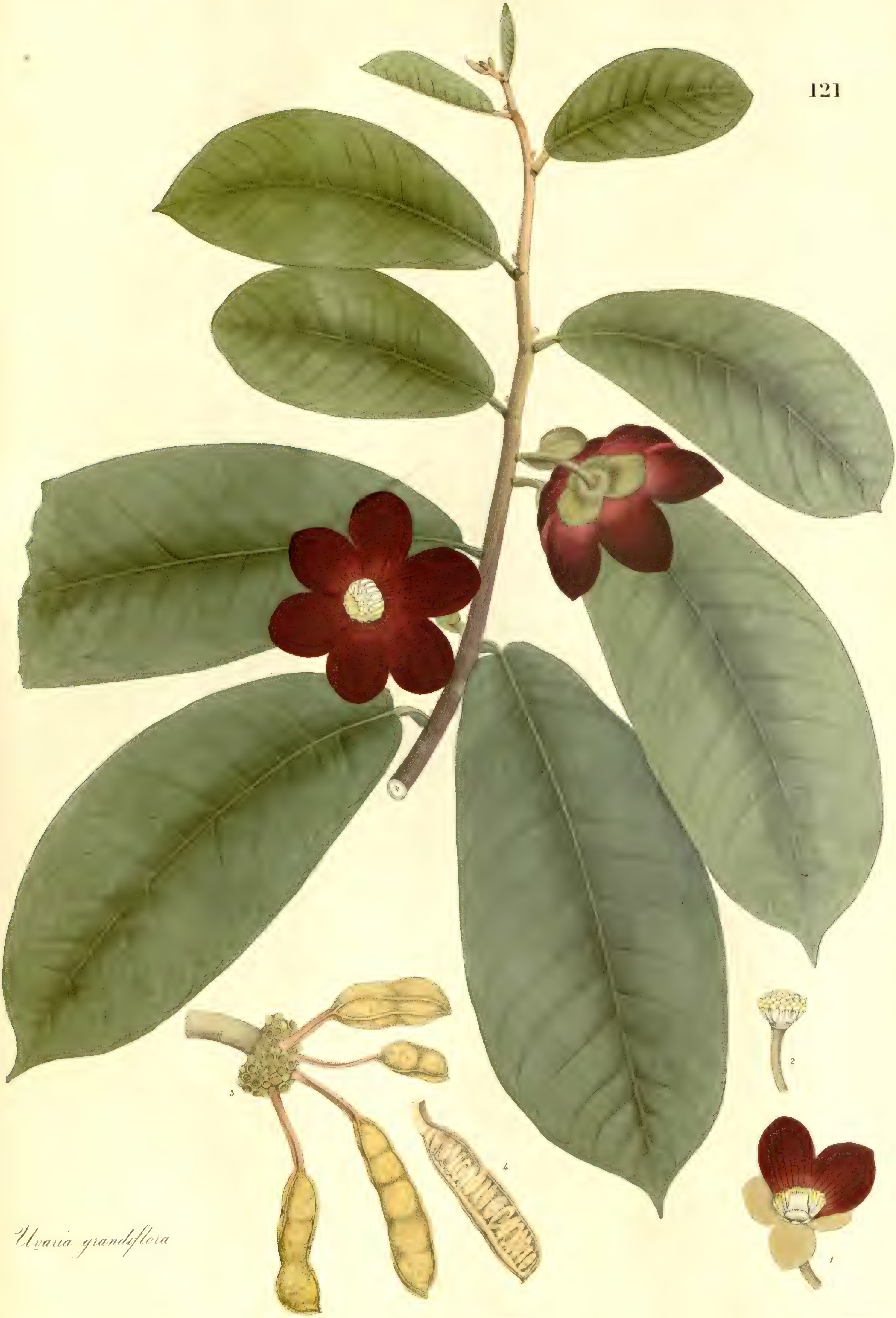
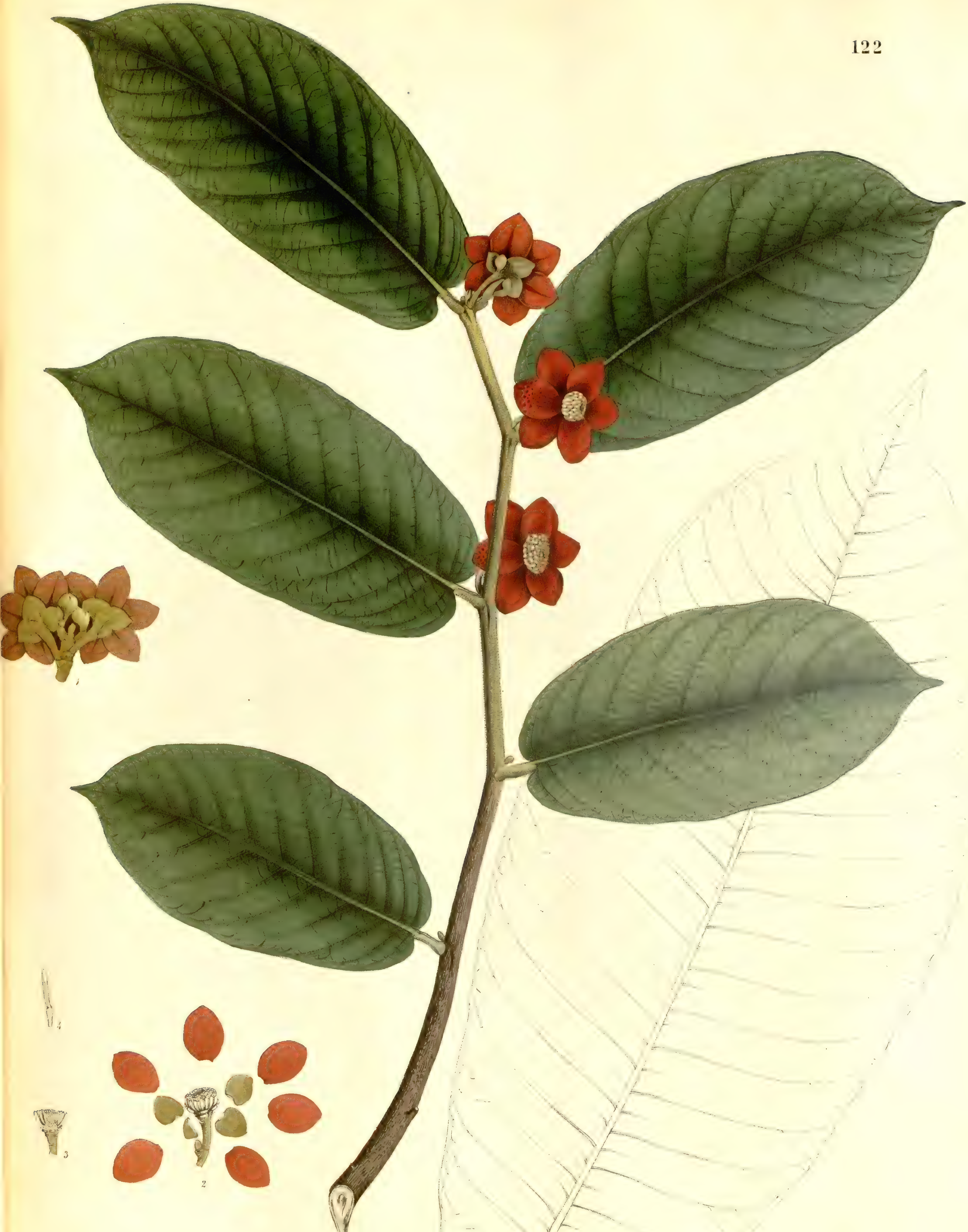


Uvaria grandiflora

Gorachand del.



Uvaria macrophylla.

RHODODENDRUM ARBOREUM ALBUM. Tab. 123.

Varietas, foliis subtùs ferrugineo-tomentosis; floribus albis.

Crescit in monte Sheopore Napaliæ, ad summum ejus cacumen, florens mense Aprilis.

The stately *Rhododendrum arboreum* of the mountains of India has been fully described and beautifully figured by the late Sir J. E. Smith. I shall therefore on this occasion advert only to two varieties of it with which I am acquainted: namely, the *White-flowered*, which is figured in the accompanying plate, and the *Rose-flowered*, which was published in the Botanical Register, vol. 15. p. 1240. Both are confined to the single mountain Sheopore, among those which I had an opportunity of visiting during my sojourn in Nipal, occupying the very summit of it, at an elevation of not less than 10,000 feet above the sea. I observed a considerable number of individuals, but it appeared to me that those with rose-coloured flowers were by far the most common. They attain the size of very large forest-trees, and are noble objects at all times. They blossom simultaneously in April, in which state the beauty of them surpasses all description, the ample crown of the trees being entirely covered with bunches of large and elegant blossoms. The common red-flowered or parent species is likewise found on the above-mentioned mountain, but it is less frequent there than in lower situations, where it blossoms a month earlier, that is in March.

There cannot be the slightest doubt that the above-mentioned trees are mere varieties of the common *Rhododendrum arboreum;* and if it were necessary to adduce proofs of this, in addition to the fact that in every essential character they perfectly agree, I should mention that I have actually seen the white- and rose-coloured sorts gradually change into each other, as well as into the colour of the parent tree. The only marks of distinction from the latter, consist in the more or less brown colour of the lower surface of the leaves, which both varieties have in common, and the colour of the flowers, which in our variety is pure white, with a very slight tinge of pale pink on the base of two or three of the lobes of the corolla. I am convinced, moreover, that from the great elevation at which the varieties are found, they will prove hardy trees in this country; and that even the common Nipal *Rhododendrum*, provided the individuals are derived from mountains not lower than that at which its varieties grow, will also stand the climate of England.

Plate CXXIII. Fig. 1. 2. Flower. 3. The same, opened.

INGA UMBROSA. Tab. 124.

Spinis stipularibus, rectis; foliis conjugato-pinnatis, pinnis 3-foliolatis; foliolis oblongis, obtusis, basi obliquâ acutis, impari parvo; petiolis anopteris, apice glandulâ planâ, parvâ; capitulis pedunculatis, axillaribus, solitariis, glabris.

Incolit montes Sillet confines, florens Octobri. In Horto Botanico Calcuttæ floruit primâ vice sub pluviis 1827.

Arbor vasta, ramosa, comâ patente. Ramuli cinerei, teretes, *aculeis* axillaribus, oppositis vel alternis, brevibus, rectis, subulatis, fuscescentibus, tuberculo insidentibus, ætate obliteratis; uti omnes reliquæ partes glaberrimi. Folia approximata, pollices 10 circitèr longa, conjugato-pinnata, semi-bijuga, i. e. 3-foliolata. Foliola oblonga vel elliptico-oblonga, obtusa, basi valdè obliquâ, subdimidiatâ acuta, ferè sessilia, coriacea, lævia, suprà lucida, subtùs nervosa, venosa reticulataque; *par terminale* 6—8-pollicare ad pedale; *foliolum impar* s. tertium extrorsùm versus basin rachis vel petioli partialis situm, reliquis tèr minus. Petioli nudi, suprà plano-sulcati; *communis* 2—4-pollicaris; *partiales* subdivaricati, illo sæpiùs paullò breviores, cuspide brevissimâ terminati. Glandula parva, plana ad apices petiolorum communis et partialium. Capitula axillaria, solitaria, *pedunculo* tereti, gracili, sesquipollicari insidentia, cum staminibus diametrum biuncialem emetientia. Flores circitèr 20, albi, odorati, subsessiles, læves. Calyx brevissimus, membranaceus, 5-denticulatus. Corolla tubulosa, limbo 4-fido, patulo, laciniis ovatis, acutis. Stamina plurima, longissima, monadelpha. Antheræ parvæ. Ovarium ovatum, brevè stipitatum. Stylus staminibus dimidiò brevior. Legumen haud visum.

Plate CXXIV. Fig. 1. 2. Flower. 3. Calyx, opened. 4. Corolla, opened. 5. Stamens and pistil.

ORMOSIA GLAUCA. Tab. 125.

Foliolis lanceolatis, utrinque acutis, lævibus, glaucis; racemis axillaribus, solitariis, erectis; calycibus ferrugineo-villosis.

Crescit in convalle Napaliæ magna, passim; florens Majo.

Arbor mediocris. Rami cylindrici, glabri; *juniores* conspersi pube ferrugineâ, separabili pilisque aliquot atris, brevibus. Folia ad apices ramorum approximata, sparsa, patentia, pinnata cum impari, 4-juga, semipedalia. Pinnæ lanceolatæ, utrinque acutæ, integerrimæ, exactè oppositæ, brevè petiolatæ, coriaceæ, 2—3-pollicares, suprà nitidæ, subtùs pallidæ et glaucescentes, interiores sensìm breviores, reticulato-venulosæ, costâ vix puberulâ. Petiolus *communis* pollicaris vel bipollicaris, teres, basi levitèr incrassatus et articulatus; *partiales* cylindrici, 3 lineas longi, basi articulati; *rachis* gracilis, teres, recta. Stipulæ, si ullæ, minutæ et caducæ. Flores mediocris magnitudinis, albi, dispositi in *racemos* oblongos, erectiusculos, axillares, solitarios, pedunculatos, folio parùm breviores. Pedunculus *communis* 2—3-pollicaris rachisque levitèr compressi, pubescentes. Calyx ovatus, basi ventricoso-ampliatus, obsoletè 5-angularis, subbilabiatus, 5-fidus, *pedicellus*que villositate ferrugineâ densè vestiti; labium superius 2-fidum, inferius 3-fidum; *laciniæ* patulæ, ovatæ, acutæ, subæquales. Corolla calyce duplò major, glabra; *petala* breve-unguiculata; *vexillum* superius, subrotundum, retusum, adscendens, unguiculare, planum, mediò parùm sulcatum, disco pallidè viridescente; *alæ* oblongæ, obtusæ, basi retusæ, vexillo parumper breviores; *carina* 2-phylla; foliola omninò distincta, alis similia. Stamina 10, distincta, parallela, glabra, longitudine inæqualia; *filamenta* filiformia, basi subincrassatâ distantia (præcipuè supremum seu decimum), alterna graciliora; inferiora carinâ parùm longiora, exserta, superiora breviora; *antheræ* ovatæ, erectæ, exsertæ. Pistillum stamina longiora vix æquans; *ovarium* sessile, oblongum, complanatum, adpressè villosum, canum, 4-sporum; *stylus* teres, subadscendens; *stigma* parvum, bilobum, lobis obtusis.

Plate CXXV. Fig. 1. Flower. 2. The same, opened. 3. Stamens. 4. Pistil. 5. The same, opened.

PARIS POLYPHYLLA. Tab. 126.

Paris polyphylla, Smith in Cyclopædia Reesiana, in loco.

Habitat in sylvis densis Napaliæ, Kamaon et Sirmore, florens a mense Aprilis usque ad finem Junii, fructifera versus finem pluviarum, mense Septembris.

Nomen Newar, *Beema*.

Herba erecta, omnibus partibus lævis, bipedalis usque ad quadripedalem, lætè viridis, attritu odorem spargens narcoticum. Radix perennis, tuberosa, carnosa, cylindrica, horizontalis, levitèr annulata, fusca, pollicem ad sesquipollicem crassa, digitum circitèr longa, *fibras* deorsùm emittens longas, cylindricas, numerosas, ramulosas. Caulis solitarius, strictus, teres, 2—4-pedalis, exsulcus, pallidus, e basi squamata, pennam cygneam crassa sensìm attenuatus, supernè gracilis. Squamæ paucæ, breves, vaginantes, alternæ, membranaceæ, oblongæ, acutæ, citò emarcescentes. Folia 7 ad 10, infra apicem caulis 3—6-pollicarem disposita in verticillum valdè regularem, patentissimum, diametrum usque pedalem emetientem, oblonga, vel cuneato-oblonga, integerrima, gracillimè acuminata, basi acuta levitèrque attenuata, 4—6-uncialia, membranacea et tenuia, suprà nitidula, subtùs pallida, 5-nervia, nervis exterioribus tenerrimis, interioribus 3 basi contiguis: omnibus venarum transversarum ope remotiusculè anastomosantibus. Petioli pollicares vel infrà, cylindrici, parùm sulcati, purpurascentes, basi paullò dilatatâ caulem amplexantes. Flos terminalis, solitarius, maximus, patentissimus, diametrum 8-pollicarem sæpè attingens, apice caulis nudo, gracili, pollices 3—6 super verticillum foliorum producto pedunculatus, inodorus, viridis, involucratus. Involucrum perianthium proximè suffultiens, foliaceum, 5—7-phyllum, aliquandò 4-phyllum, rarissimè 3-phyllum, patentissimum; *foliola* figurâ et structurâ folia ipsa plantæ omninò referentia, iisdem autem duplò triplovè minora, deorsùm angustata, basi latâ sessilia, admodùm pallidè viridia. Perianthium petaloideum, 5—7-phyllum, nunc numero involucro correspondens cumque foliolis ejusdem alternans, nunc numero ab eodem differens et insertione relativâ mirum in modum varians; *foliola* angustissimè linearia, planiuscula, vix lineam dimidiam lata, basi vix dilatatâ circum ovarium inserta, indè adscendentia, majore parte exteriore laxè nutantia, acuta, e lutescenti viridia, 3—4-pollicaria, involucro breviora. Stamina 5—14, erecta, brevia, ad ambitum basis ovarii inserta, foliolis perianthii aut duplò numerosiora, aut numero planè variantia irregularitèrque inserta; *filamenta* subulata, parùm complanata, unguicularia; *antheræ* lineares, biloculares, utrinque longitudinalitèr dehiscentes, filamentis parùm longiores, *connectivo* lineari, apice brevitèr producto, nudo; *pollen* majusculum, globosum, flavum. Pistillum staminibus parùm brevius; *ovarium* magnum, globoso-ovatum, obsoletè et inæqualitèr 5-sulcatum et 5-angulare, vertice plagulâ parvâ, submarginatè 5-gonâ notatum, 1-loculare, polyspermum; *ovula* seriebus sæpiùs 5, sulcis ovarii exterioribus correspondentibus, parieti subcarnoso inserta; *stylus* brevissimus, crassus, sæpè per axin ovarii deorsùm continuatus; *stigmata* 4 vel 5 carnosa, subulata, subrecurvata, obtusa, suprà papilloso-scabrida, subtùs sulcata. Bacca exsucca, coriacea, globosa, obsoletè 5-carinata, pallidè ferruginea vel flavescens, magnitudine cerasi, suffulta et coronata partibus floris emarcidis, 1-locularis, polysperma, plenâ maturitate in valvulas 3, 4 vel 5 valdè irregularitèr disrupta. Placentæ 4 vel 5 parietales, membranaceæ, denticulatæ, adfigentes semina valdè copiosa, parva, ovalia, variè angulata, basi acutiuscula, subfasciculata, coccinea, cavitatem fructûs prorsùs replentia. Integumentum coriaceum, crassiusculum, *albumini* carnoso, aqueo-pallido arctè adhærens. Embryo exiguus, globularis, fuscescens, ad basin seminis extra perispermum situs.

This very remarkable plant has been described by the late Sir James Edward Smith in Rees's Cyclopædia, under the article "*Paris*," from specimens received from the late Dr. Hamilton, which he gathered in Nipal in the year 1801, where it grows very commonly, delighting, like its Northern relative, in shady and moist woods. Several years before I visited that country, my people, who were stationed there under the direction of my zealous friend the Honourable Edward Gardner, supplied me with specimens in all stages, of which I forwarded a vast number to the late Sir Joseph Banks and Sir J. E. Smith, to Mr. Lambert, and many other botanists. A short account of the structure of the seed-vessel was transmitted by me from Nipal to Dr. Hamilton, who inserted it in the Edinburgh Philoso-

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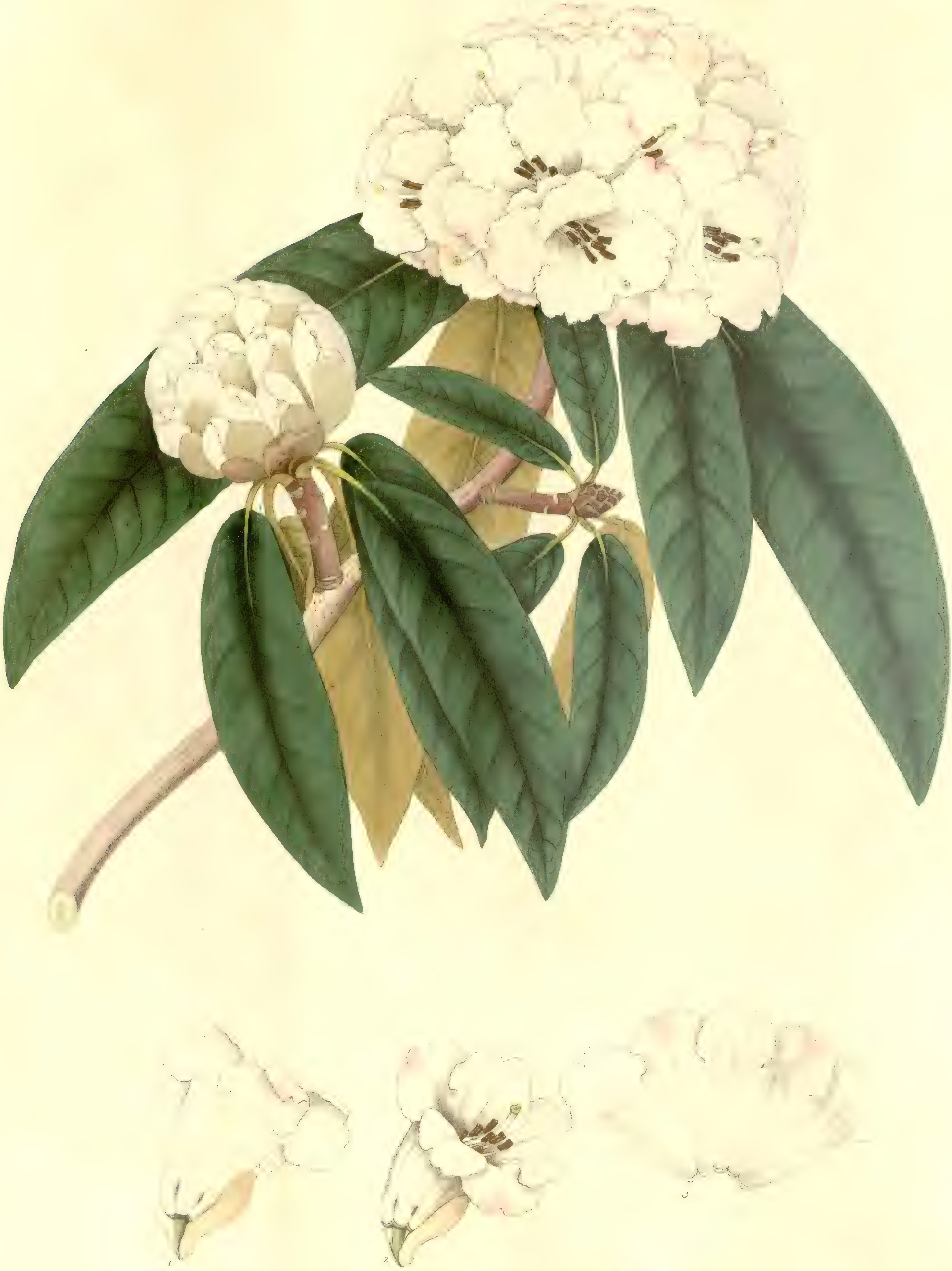

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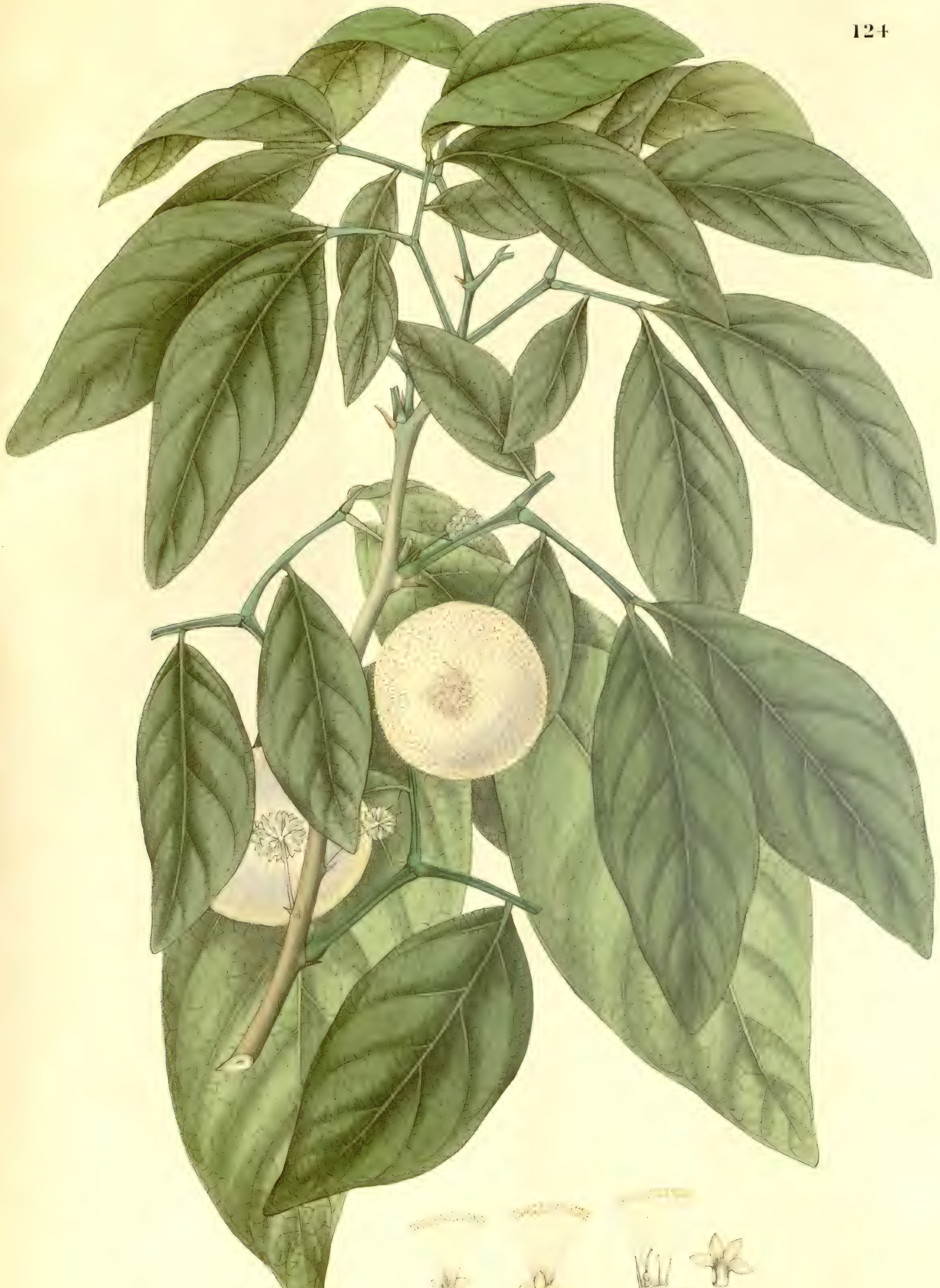
Rhododendrum arboreum album



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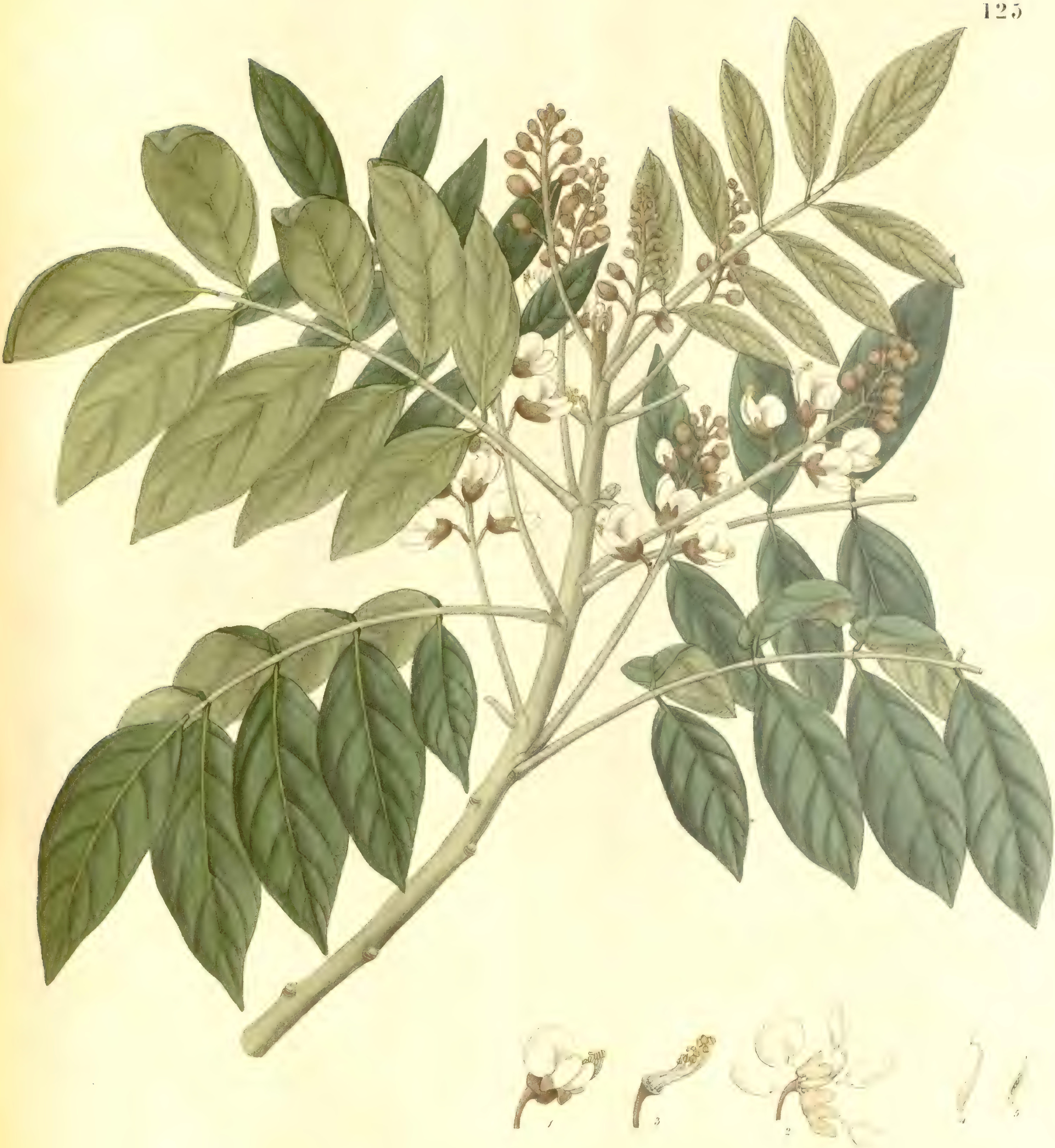
N. Gauci lith

Inga umbrosa



Ormosia glauca

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Paris polyphylla

phical Journal, vol. 1. p. 379. The natives of the country consider the whole plant as poisonous, especially the seeds and root. All the green parts possess a disagreeable narcotic smell, which is perceptible on their being rubbed, and is very like that of a *Datura*. The number and relative position of the leaves and the parts of the flower vary in an extraordinary manner, of which I know of no parallel instance. Mr. Royle has communicated to me a scale of these variations, founded on his own observations, which I subjoin. He adds, that the fleshy root has a faint nauseous smell and taste; the stem and berries, when bruised, a narcotic one; and that they probably possess the medicinal properties ascribed to *Paris quadrifolia* in a still greater degree. My excellent friend found the plant on the mountain called Mussuree, at an elevation of about 6000 feet, and in a mean temperature of 59° Fahrenheit, flowering in April. *Paris incompleta* of Marschal a Bieberstein is probably quite a distinct species.

Variation in the number of parts observed in different individuals by Mr. Royle:—

Leaves.	Involucres.	Perianths.	Stamens.	Stigmas.
9	4	4	8	4
9	5	4	12	5
9	7	7	14	7
9	6	6	12	6
8	4	4	9	4
8	3	3	8	3
7	4	4	8	4
7	4	4	7	4

Plate CXXVI. Fig. 1. Flower, the involucre being removed. 2. Pistil. 3. The same, divided horizontally. 4. The same, divided vertically. 5. Fruit, having the withered parts of the flower attached. 6. The same, burst open. 7. 8. The same, divided horizontally and vertically. 9. A fascicle of seeds attached to part of the placenta. 10. A separate seed. 11. The same, opened, showing the situation of the embryo.

STERCULIA COMOSA. Tab. 127.

Foliis maximis, ovato-cordatis, longè petiolatis, acuminatis, extrorsùm levitèr trilobis, 9-nerviis, subtùs glaucis, pubescentibus; cymis nutantibus, axillaribus, paniculatis; perianthii campanulati lobis oblongis, liberis.

Crescit in sylvis Amboynæ. In Hortum Calcuttensem a Dom. Mackenzie introducta, ubi floret mense Martii.

Arbor procera, valdè ramosa et comosa. Truncus robustus. Ramuli crassi, cylindrici foliaque glaberrima, epidermide cinereâ. Folia amplissima, ad apicem ramulorum approximata, patentissima, ovato-cordata, acuminata, extrorsùm levitèr triloba, lobis obtusis vel acutis, parùm sinuata, sinu basis acuto et satìs profundo, coriacea, suprà nitida, subtùs glaucescentia, puberula, 7—9-nervia, nervis crassis, ramosis, transversè et parallelè venosa, palmaria, pedalia, quin sesquipedalia. Petiolus cylindricus, glaber, basi parùm intumescens, apice ad divisuram in nervos plano-dilatatus, 5—12-pollicaris. Panicula terminalis, maxima, foliosa, constans cymis axillaribus, nutantibus, laxis, oblongis, ramosis, foliis parùm brevioribus. Pedunculi teretes, carnosi, stellato-pubescentes. Flores parvi, purpurascentes, pedicellati, odorati. Perianthium campanulatum, 5-fidum, intùs villosulum; *lobi* oblongi, patuli, acutiusculi, liberi. Stamina 10, brevissima, basin ovarii ambientia. Ovarium globosum, glabrum, vertice obsoletè 5-sulcatum, pedicellatum. Stylus brevis, carnosus, incurvus. Stigmata 5, teretia.

This is a truly noble and stately tree, abounding with very large and dense foliage, and producing in the beginning of the hot weather enormously large drooping panicles of small, purple, sweetly-scented flowers.

Plate CXXVII. Fig. 1. Flower. 2. 3. The same, opened. 4. Stamens and pistil.

DELPHINIUM ALTISSIMUM. Tab. 128.

Radice subtuberosâ, perenni; caule elongato, gracili, supernè subramoso; foliis longè petiolatis, palmatìm 5-lobis, subtùs argenteis, pilosulis, lobis apice inciso-trifidis, grossè dentatis, caulinis remotissimis, subsessilibus, lineari-3-partitis; petalis calyce dimidiò brevioribus, pilosis, inferioribus bilobis; calcare recto, adscendente, pedicellum æquante, interiore 2-phyllo; capsulis 3, cylindraceis, pilosulis.

Crescit in sylvis montanis Napaliæ, florens fructiferumque sub pluviis.

Radix perennis, crassa, subtuberosa, fibras frequentes exserens. Caulis erectus, gracilis, 3—5-pedalis, teres, pube adpressâ conspersus, ætate glaberrimus, basi simplicissimus, pennam cygneam crassus, supernè attenuatus, nunc ramos paucos, remotos, breves emittens. Folia pauca et remota; *radicalia* et inferiora caulis longè petiolata, orbiculato-cordata, palmatìm quinqueloba palmaria vel infrà, suprà glaberrima, nitida, juxta vasorum tractus sulcata, subtùs argenteo-pallida, 5-nervia, grossè reticulato-venosa, nervis venisque pilis brevibus munitis; *lobi* basi cuneati, integerrimi, extrorsùm inæqualitèr subtrifidi, inciso-dentati, dentes magni, ovati, cuspidati; *caulina* pauca, valdè distantia, brevissimè petiolata, tripartito-digitata, 2—3-pollicaria, lobis linearibus, elongatis, acutis, pubescentibus, ciliatis. Petioli foliorum inferiorum graciles, pedales sesquipedalesve, erecti, puberuli, suprà plano-sulcati, basi dilatatâ amplexantes, caulesque sæpè purpurascentes. Racemus terminalis, caulis ramorumque erectus, cylindricus, simplex, rarò divisus, digitum ad spithamam longus, nudus. Flores magni, remotiusculi, extùs densè pubescentes, suffulti *pedicellis* pollicaribus, basi 1-bracteatis, mediò subopposite 2-bracteatis, bracteis linearibus, pedunculoque communi cano-pubescentibus. Sepala cœrulea, ovata, acutiuscula, apice concaviuscula, interiora paullò latiora, unguicularia, superius desinens in *calcar* rectum, purpurascens, adscendens, cylindraceo-attenuatum, obscurè quadrangulare, pubescens, pedicellum longitudine subæquans. Petala distincta, purpurea, sepalis dimidiò breviora; *inferiora* oblonga, profundè biloba, fornicata, levitèr deflexa, cano-pilosula, unguiculata; *superiora* obliquè oblonga, subtruncata, posticè bifida, deorsùm producta in *ungues* graciles, virides, *calcar* interius formantes, exteriore occultos. Stamina plura, glabra, decurva, dehiscentiâ antherarum demùm erecta. Capsulæ 3, pilosulæ, venosæ, cylindraceæ, intùs carinatæ, obliquè acuminatæ, divergentes.

Plate CXXVIII. Fig. 1 and 2. Flower dissected.

THALICTRUM CYSTICARPUM. Tab. 129.

Floribus hermaphroditis, racemoso-paniculatis, filamentis capillaceis; carpellis longè stipitatis, vesicularibus, compresso-obovatis, retusis, cuspidatis, reticulatis; foliis lævibus, exstipellatis, tèr trichotomis, foliolis ovato-subcordatis, acutis, serratis.

Crescit in montibus Napaliæ altioribus, versusque Emodum ad Gossain Than. Floret fructificatque tempore anni pluvioso.

Radix constans fibris plurimis, ramosis. Caulis erectus, cylindricus, fistulosus, uti tota planta lævis et glaucescens, nunc asper propter aculeolos minutos, subulatos, 3—5-pedalis, infernè pennam cygneam ad digitum minimum ferè crassus, supernè valdè attenuatus, divisus in *ramos* patentes, gracillimos, obsoletè flexuosos. Folia magna, remota, patentia, trichotoma, decomposita, inferiora longè, superiora floraliaque brevè petiolata. Foliola ternata, ovata, subcordata, acuta, pollicaria ad 1½-pollicaria, inæqualitèr grossè et acutè serrata, intermedium majus, obsoletè trilobum; membranacea et tenuia, suprà pallidè viridia, opaca, subtùs valdè glauca, 5-nervia, reticulato-venosa, sinu basis plùs minùsve manifesto, nunc nullo. Petioli graciles, levitèr sulcati, tèr trichotomi, siccitate ad divisuras articulati; *universalis* semipedalis pedalisve, basi valdè dilatâ, membranaceo-marginatâ *gemmulas* sæpissimè fovente plurimas, subulatas, in acervulum axillarem, densè confertas; *partiales* graciles, nudi; *ultimi* tenerrimi, folioli intermedii pollicaris vel sesquipollicaris. Flores hermaphroditi, albi, odorati, dispositi in *racemos* graciles, oblongos, axillares, pedunculatos, foliis breviores vel superiores iisdem longiores, *paniculam* efformantes magnam, terminalem, foliosam, pyramidato-patentissimam. Pedunculi graciles, teretes, subflexuosi; *pedicelli* capillares, pollicares, subfasciculati, *bracteâ* lineari, longiusculâ suffulti. Sepala 4, petaloidea, obovato-subrotunda, concaviuscula, lævia, ferè unguicularia. Stamina plura, gracilia, sepalis tertiò breviora; *filamenta* capillacea; *antheræ* angustissimæ, cuspidulatæ. Ovaria numerosa, compressa, obliquè acuta, pedicellata. Styli uncinato-recurvati, scabri, ovarii ferè longitudine. Carpella umbellata, longè capillaceo-stipitata, vesicularia, unguicularia, obovata, compressa, subretusa, stylo emarcido obliquè cuspidata, lævia, ferruginea, reticulato-venulosa; plura sæpiùs abortiva. Semen cylindraceo-subulatum, cavitate carpelli pluriès minus, e fornice ejus dependens.

Besides this handsome and large-flowered species of *Thalictrum*, I am acquainted with five others, also natives of Hindustan.

T. cultratum, floribus unisexualibus? axillaribus, longè pedunculatis; carpellis vesicularibus, cultriformibus, deorsùm valdè attenuatis, subsessilibus, stylo longissimo, uncinato terminatis, reticulato-rugosis; foliis triternatis, exstipellatis, foliolis cuneato-ovatis, inciso-3-dentatis, lævibus.

A native of Gossain Than and Kamaon.

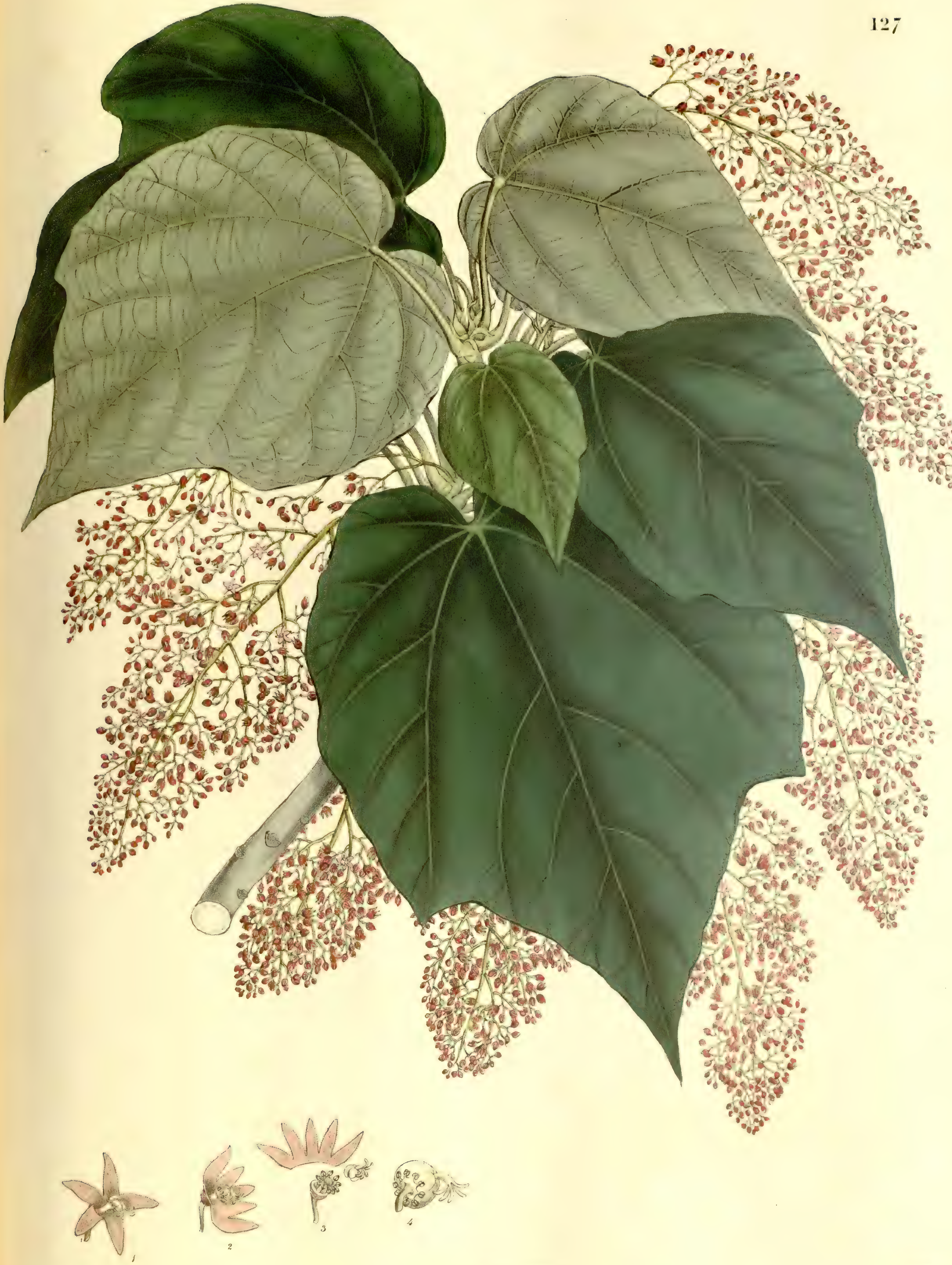
T. reniforme, floribus hermaphroditis, subpaniculatis, filamentis antherisque filiformibus; carpellis . . . . ; foliis triternatis, exstipellatis, foliolis reniformi-cordatis, obtusissimè inciso-dentatis, utrinque caule ramisque pube canâ, mollissimâ obsitis.

A native of Gossain Than. It belongs probably to the same section with the preceding two species, namely, *Physocarpum* of DeCandolle.

T. foliolosum, DeCand. Syst. Nat. 1. p. 175.

A native of all the forests of Nipal and Kamaon.

T. Punduanum, floribus hermaphroditis, paniculatis; carpellis sessilibus, subulatis, sulcatis, scabris; foliis biternatis, exstipellatis, petiolo basi utrinque in ligulam oblongam dilatato, foliolis subrotundo-cordatis, basi obliquis, nunc cuneatis, subtrilobis, dentatis, subtùs nervoso-venosis, reticulatis.



Vishnupersaud del.

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M. Gauci lith.

Sterculia comosa

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Delphinum altissimum

Vishnupersaud del'

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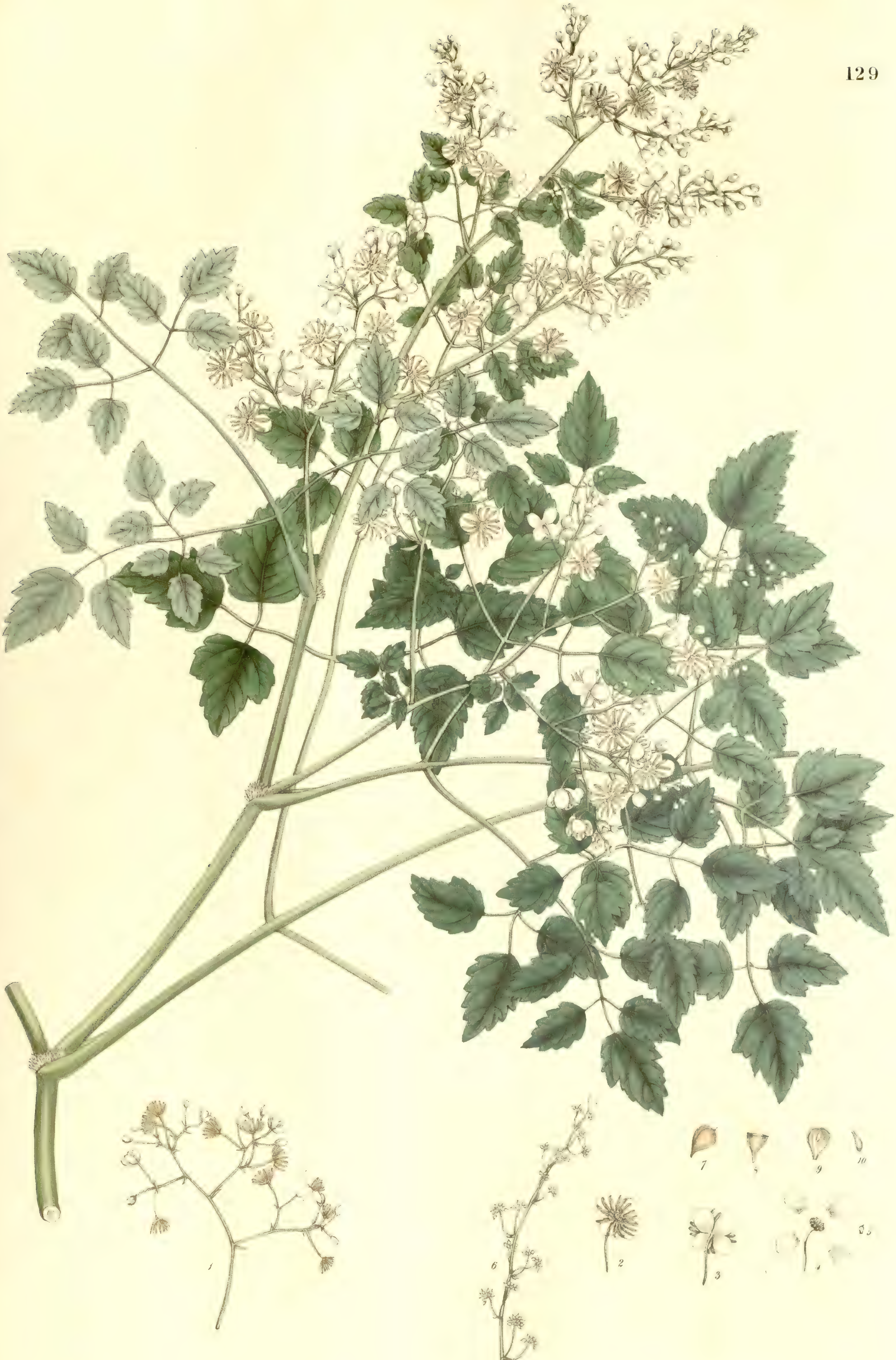
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Gorachand del^t

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M Gauci lith

Thalictrum cysticarpum

A native of the mountains called Pundua, in the neighbourhood of Sillet. Like all the other species it blossoms and produces fruit during the advanced part of the rainy season.

T. rotundifolium, DeCand. loc. cit. p. 185.

Plate CXXIX. Fig. 1. A branch of the panicle. 2. 3. Flowers. 4. The same, dissected. 5. Pistil. 6. A raceme of young fruit. 7. Carpellum. 8. 9. The same, opened. 10. Seed.

ACACIA MODESTA. Tab. 130.

Arborea; ramis flexuosis, spinis axillaribus subulatis; foliis bipinnatis, 2—3-jugis, pinnulis oblongis, obtusis, glabris, glaucis, subcinerascentibus; petiolo pilosulo, mediò uniglanduloso; spicis axillaribus terminalibusque, subsolitariis, cylindricis, nutantibus, brevè pedunculatis; floribus hermaphroditis, filamentis corollâ duplò longioribus, distinctis; legumine stipitato, lineari-oblongo, plano, glabro, submembranaceo, 6-spermo, utrinque acuto.

Habitat in Hindustania. Florentem observavi ad Saharunpur Aprili 1825. In Horto Calcuttensi floret mensibus Maii et Junii; legumina maturescunt Novembre.

Arbuscula 8—12-pedalis, ramosissima. Rami divaricato-patentes, aculeati; *ramuli* graciles, flexuosi, teretes, pallidi, calloso-punctulati, glaberrimi; tenelli uti petioli pedunculique pilis conspersi raris, patulis, brevibus. Aculei geminati, stipulares, et ad divisuras ramorum, breves, recti, subulati, fusci, nitidi. Folia approximata, patentia, nunc subfasciculata, bipinnata, 2—3-juga, brevè petiolata, 3-pollicaria, lævia. Pinnæ exactè oppositæ, oblongæ, subsessiles, 2—3-jugæ, 2-pollicares. Pinnulæ oblongæ, obtusæ vel subretusæ, ferè sessiles, basi rotundatæ, vix inæquales, oppositæ, subdistantes, unguiculares, obsoletè venulosæ, utrinque valdè pallidæ et glaucæ, exteriores parùm majores, subobovatæ. Petioli graciles, ferè filiformes, glauci, suprà sulcati; *communis* mediò inter basin et primum pinnarum par munitus glandulâ parvulâ, concavâ, depressâ. Stipulæ capillaceæ, breves, valdè caducæ. Spicæ axillares terminalesque, solitariæ vel geminatæ, laxè nutantes, oblongo-cylindricæ, obtusæ, 3-pollicares, digitum minimum vix crassæ, initio albæ, deinde flavicantes, suffultæ *pedunculo* tereti, gracili, pollicari vel sesquipollicari. Flores parvi, glabri, fragrantes, sessiles, undique circum *rachin* lineatam, filiformem sparsi, approximati, patentissimi, hermaphroditi. Calyx ovatus, obtusè 5-dentatus, basi subgibbosus. Corolla calyce duplò major, infundibuliformis, 5-fida; *laciniæ* erectæ, ovatæ, acutæ. Stamina valdè numerosa, corollâ duplò longiora, divergenti-patentia; *filamenta* omninò distincta, capillacea, alba; *antheræ* minutæ, didymæ, subglobosæ. Ovarium lineare, læve, substipitatum; *stylus* filiformis, longitudine staminum, glaber; *stigma* minutum, simplex. Legumen lineari-oblongum, compressum, submembranaceum, utrinque acutum, glabrum, margine utroque recto vel levitèr repando, parùm incrassato, 6-spermum, stipite suffultum tereti, semiunciali. Semina orbicularia, plana, ope funiculi longiusculi, serpentini inserta, lævia, fusca, ocellata.

This is an elegant shrub or small tree, remarkable on account of the pallid, cinereous colour of its foliage, and its drooping spikes of fragrant flowers. It is very ornamental while in blossom.

Plate CXXX. Fig. 1. Flower. 2. Calyx and corolla. 3. The same, opened. 4. Calyx and pistil.

ALNUS NAPALENSIS. Tab. 131.

Alnus nepalensis, Don Prodr. Floræ Nepal. p. 58.

Crescit in montibus vallem Napaliæ magnam ambientibus; florens et fructifera fine et initio anni.

Arbor 30—40-pedalis. Rami fusci, calloso-punctulati; *juniores* pube pallidè ferrugineâ conspersi. Folia alterna, patentia, ovalia, acuta, nunc levitèr acuminata, integerrima vel minutìm crenulata, 4—7-pollicaria, coriacea, suprà lævia, lucida, subtùs glaucescentia, punctis minutis, resinosis, impressis notata, multinervosa, nervis suboppositis, approximatis, parallelis, obliquis, ad axillas villosulis, usque ad ambitum excurrentibus, ibique arcuato-anastomosantibus costâque elevatis, pubescentibus, venis transversis, numerosis. Petiolus cylindricus, suprà sulcatus, $\frac{1}{2}$-pollicaris—pollicaris, glaber. Stipulæ lanceolatæ, acutæ, caducæ. Amenta *mascula* terminalia, paniculata, longissima, cylindrica, gracillima, ferè filiformia, 6—8-pollicaria, flaccida, suffulta *pedunculis* brevibus, puberulis, simplicitèr ramosis. Squamæ valdè approximatæ. Antheræ magnæ. Amenta *fœminea* in eadem arbore infra mascula, terminalia ramulorum, subsessilia, racemosa, oblongo-cylindrica, obtusa, glabra, ferè uncialia; *squamæ* obcordatæ, cuspidulatæ. Semina pallidè fusca, sursùm membranaceo-marginulata.

Plate CXXXI. Fig. 1. Part of a male amentum. 2. 3. Scales, with stamens. 4. Female amentum. 5. 6. Scales.

ACER CAUDATUM. Tab. 132.

Acer caudatum, suprà, p. 4.

Arbor vasta. Ramuli teretes, læves, ferruginei. Folia patentia, orbiculato- vel ovato-cordata, palmaria, 5—7-loba, lobis ovatis, exterioribus brevioribus, gracillimè acuminatis, duplicato-serratis, serraturis longè cuspidatis; suprà glabra, nitentia, subtùs 5—7-nervia, reticulato-venosa, secus vasa ferrugineo-pilosa, ætate salvis axillis nervorum glabra. Petioli graciles, teretes, rubicundi, longitudine foliorum. Flores *masculi* e gemmis maximis, ovatis, villosis, versus apices ramulorum corymbosi, glabri, *pedunculis* filiformibus, longiusculis, glabris, laxis suffulti. Calyx 5-partitus, venosus, albidus; *liciniæ* ovatæ, obtusæ. Petala 5, cuneata, unguiculata. Stamina 8, erecta intra *discum* magnum, carnosum, cum rudimento centrali pistilli. Samaræ longiusculè pedunculatæ, læves, sesquipollicares, rubicundæ, demùm ferrugineæ, loculo rugoso, alis levitèr divergentibus, cultriformibus, obtusis, dorso rectilineis, introrsùm crenulatis; dispositæ in racemum ramulorum terminalem, erectum.

I have already remarked (in page 4 of this Volume) that this noble tree varies somewhat in its foliage and fruit, according to the locality of its growth. I am sure, however, that these differences do not amount to any specific distinctions. The figure which is here given represents a branch of the Gossain Than tree, with young fruit.

ZANONIA SARCOPHYLLA. Tab. 133.

Foliis 3-foliolatis, foliolis crassis, carnosis, ovatis, obtusis, integerrimis.

Habitat ad loca sterilia et in rupibus calcareis ad Prome, Paghamew, Yenangheun, Segain, alibique secus ripam fluminis Irawaddi, florens mense Septembris, fructifera Novembri.

Frutex ramosissimus, laxè super arbusculas rupesque scandens, omninò lævis. Rami longissimi, flaccidi, graciles, teretes, subsulcati, pallidi. Folia subdistantia, patentia, brevè petiolata, 3-foliolata, suprema aliquandò simplicia; *foliola* subrotundo-ovalia, nunc ovata, obtusa, nunc levissimè retusa, cuspidulâ brevi terminata, basi acuta, brevè petiolulata, integerrima, succulenta et carnosa, fragilia, lineam crassa, plana, mediò longitudinalitèr sulcata, 3—4-pollicaria, glauca et valdè pallida, subtùs obscurè venulosa, obsoletissimè 3-nervia, costâ levitèr elevatâ, lateralia parùm minora, basi vix obliqua. Petioli carnosi, crassi, suprà sulcati, æquales, vix semiunciales. Cirrhi simplices, extra-axillares, 2—6-pollicares, filiformes, attenuati. Flores *masculi* parvi, inodori, ex albo viridescentes, pedicellati, patentissimi, æstivatione pyramidato-conici et imbricantes, solitarii vel subfasciculati, dispositi in racemulos paniculatos, valdè ramosos, pyramidatos, laxos, axillares terminalesque, palmares ad pedales, foliis duplò triplòve longiores. Pedunculi graciles, filiformes, carnosi, puberuli, sulcati, nitidi; *pedicelli* capillacei, semiunguiculares, suffulti bracteolâ lineari, carnosâ. Calyx usque ad basin divisus in *lacinias* 5, lineari-lanceolatas, acuminatas, planas, patentissimas, disco carnosas, marginibus membranaceas, basi subtùs gibbosulas, vix 2 lineas longas. Petala 5, rarò 4, omninò distincta, patentissima, ovata, cuspidato-acuta, ferè membranacea, laciniis calycinis parùm longiora, cumque hisce alternantia, obsoletè ciliata. Stamina 5, e centro floris erecta, parallela, glabra, petalis breviora; *filamenta* subulata; *antheræ* nutantes, dorso carnosæ, hinc 2-loculares. Flores *fœminei* in distincta planta, in racemos paniculatos, oblongos omninò uti flores masculi digesti, sed longiùs pedicellati. Calyx et Corolla ut in masculo. Ovarium inferum, clavato-cylindricum, læve, viridescens, unguiculare, 1-loculare, polyspermum; *ovula* distantia, pendula, utrinque alternatìm inserta *placentis* 3, rarò 4, parietalibus, carnosis. Styli 3 vel 4, breves, conici, carnosi, intùs planiusculi. Stigmata carnosa, papilloso-scabrida, semilunaria, nutantia. Fructus clavatus, obtusè triangularis, pendulus, sesquipollicaris, fauce subtruncatâ, 3-angulari. Semina haud visa.

This curious plant delights in arid and sterile exposed situations along the banks of the river Irawaddi. It is very branchy, and spreads in all directions, over shrubs and rocks, climbing by means of its simple and slender tendrils. The branches are long and pendulous; the leaves very fleshy and juicy, and of a pale glaucous colour. The flowers are small, but very numerous, forming ample greenish, nodding panicles; the different sexes are produced in distinct plants.

I am acquainted with the following other species of *Zanonia*:—

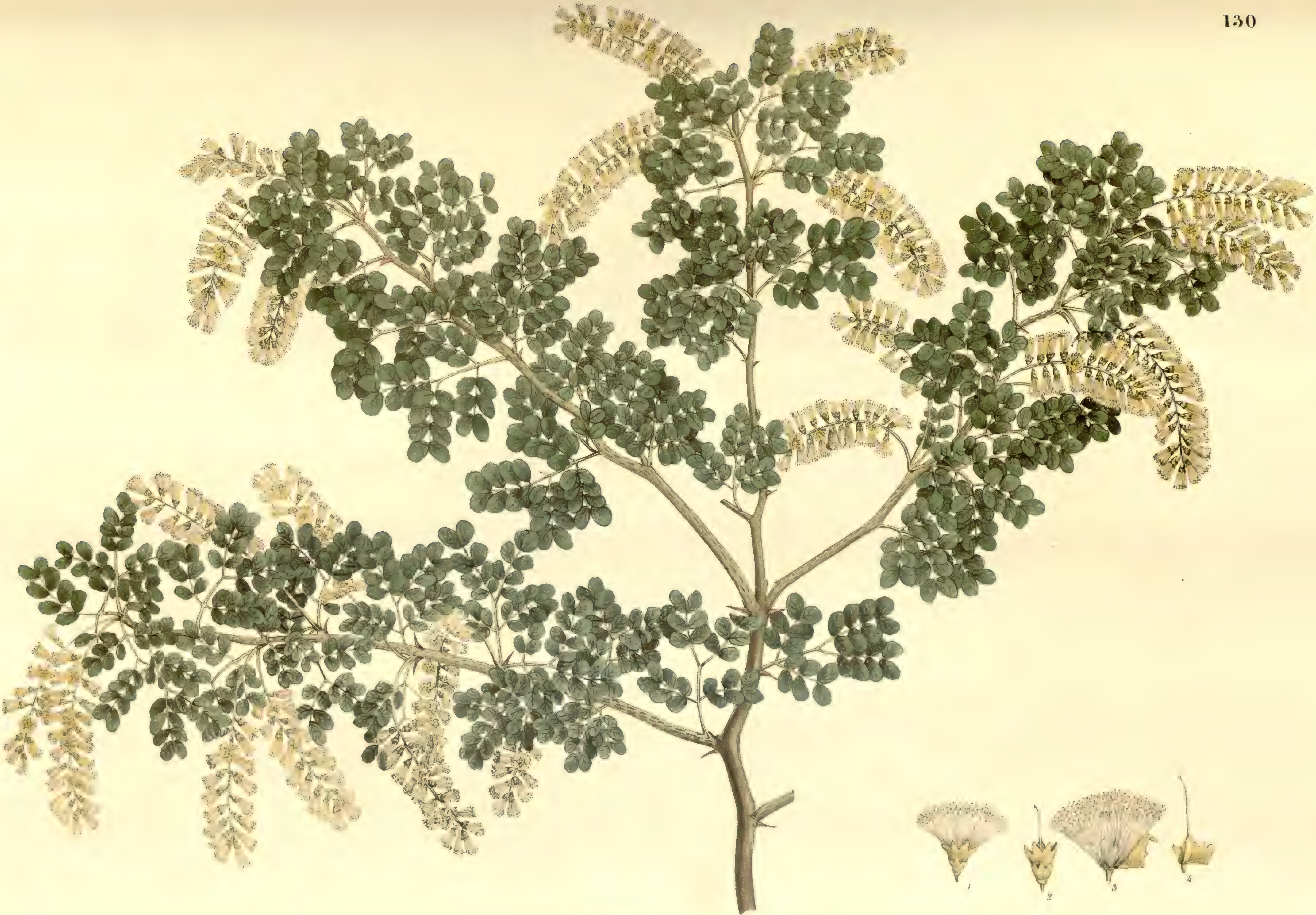
Z. clavigera, lævis; foliis trifoliolatis, foliolis oblongis, acuminatis, integerrimis; fructu maximo clavato.

A native of Sillet, where it is called in the Bengali language *Kishnobera*. The fruit is three inches long, and as thick as a thumb; the seeds flat, oblong, terminated at both ends with an obtuse spongy wing, two inches long. The mode of fructification in this as well as in *Z. cissoides* and *laxa*, is like that of *Z. sarcophylla*.

Z. angulata, lævis; caule anguloso; foliis simplicibus, subhastato-lanceolatis, basi cordatis; fructu maximo, clavato.

This is also a native of Sillet. I have only seen a single mutilated specimen. The fruit is as long as a finger, and very thick.

Z. cissoides, caule filiformi, angulato; foliis pedatis, 5- vel 7-foliolatis, foliolis lanceolatis, utrinque acuminatis, grossè cuspidato-serratis; petiolis pedunculisque pilosulis.



Acacia modesta

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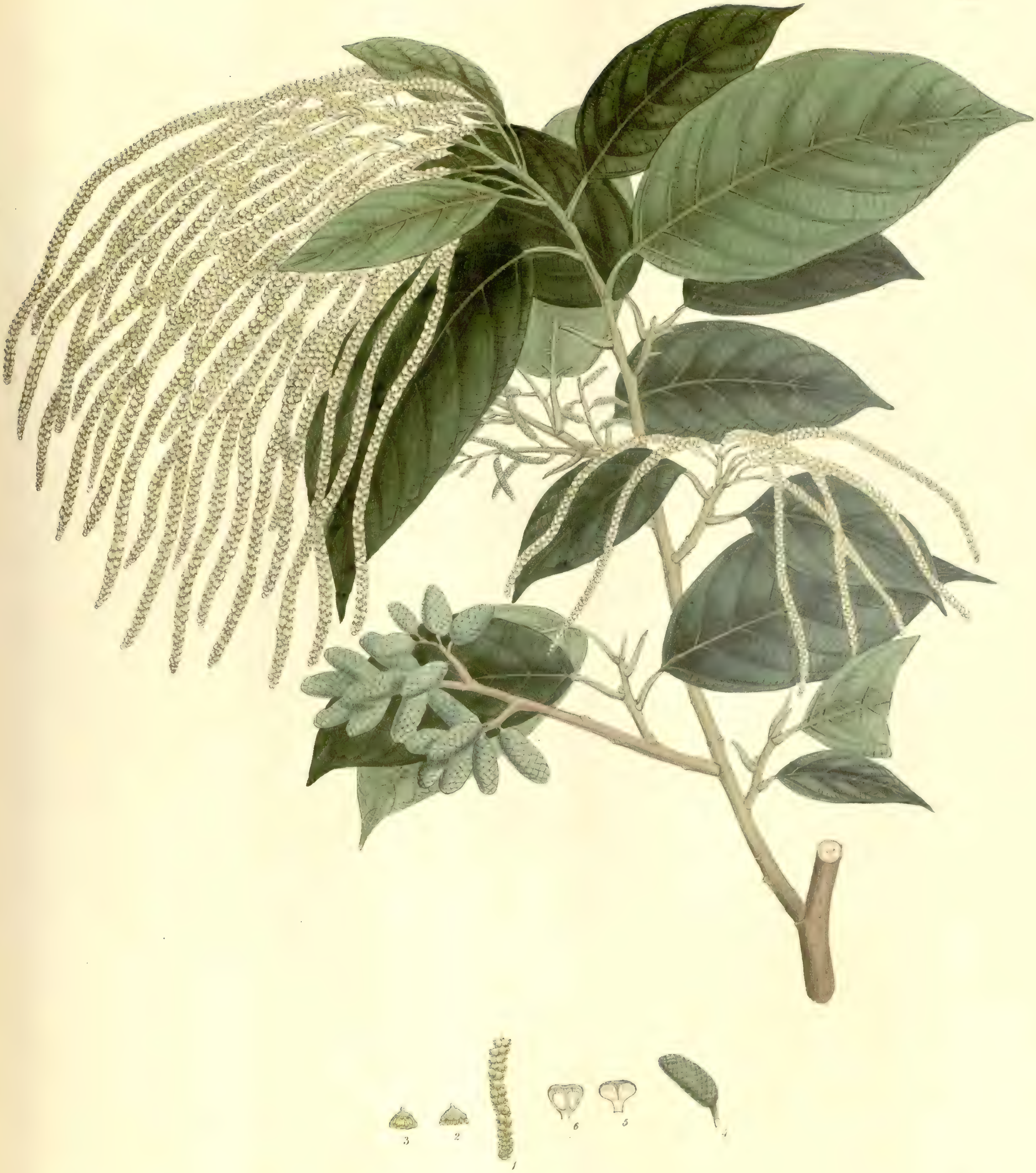

Gorachand del^t

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Alnus napalensis.

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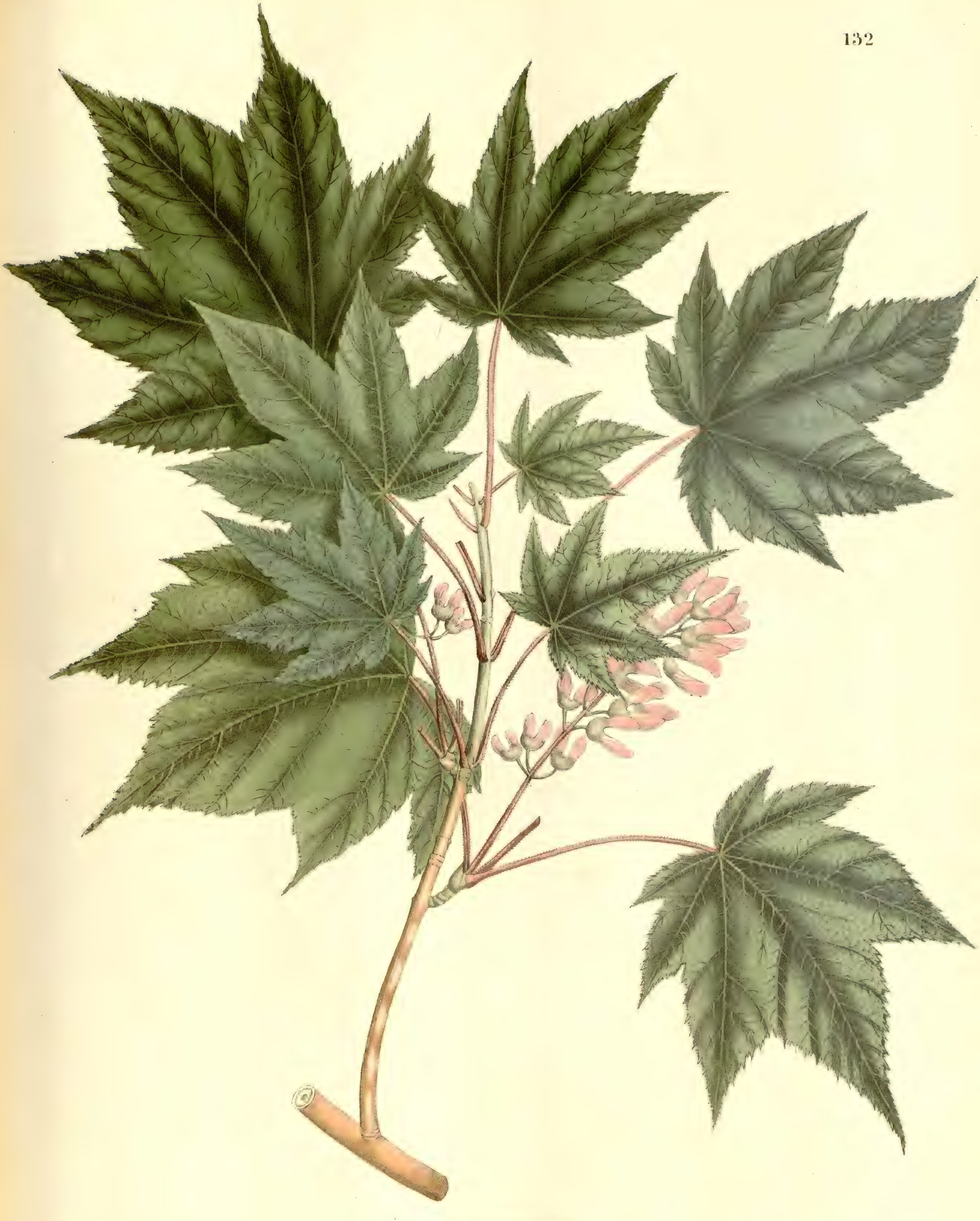

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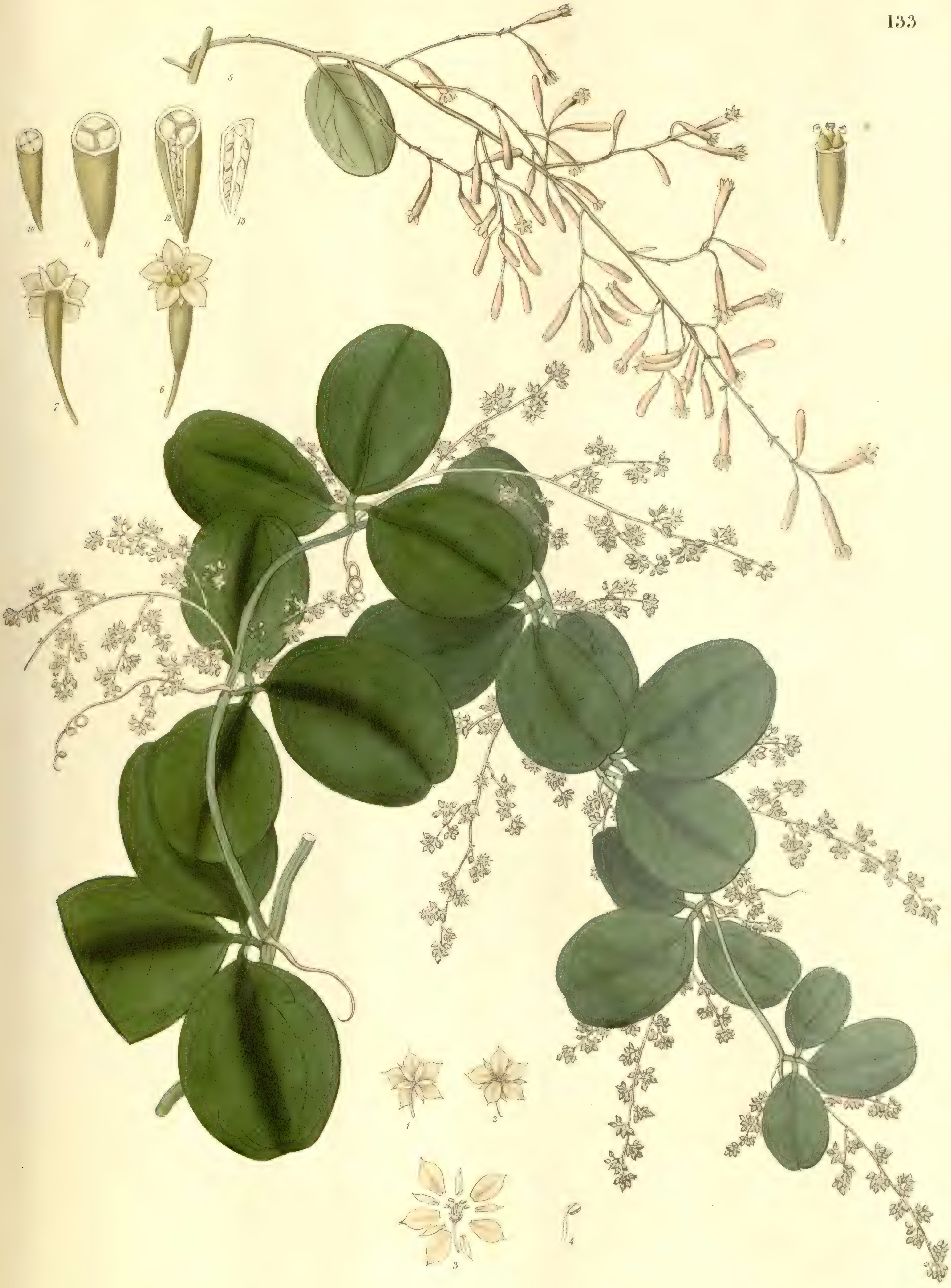
Acer caudatum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Vishnupersaud delᵗ

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Zanonia sarcophylla

I found this in Nipal, in flower during the rainy season, in 1821. I have not seen the fruit.

Z. laxa, caule filiformi, ramosissimo, bifariè pilosulo; foliis 3-foliolatis, foliolis acuminatis, serratis, intermedio lanceolato, lateralibus subsemicordatis, petiolis pedunculisque pilosulis.

A native of Sillet, where it blossoms in the rainy season. I have not seen the fruit.

Z. heterosperma, glabra; caule filiformi, tenùissimo; foliis pedato-5-foliolatis, foliolis lanceolatis, acuminatis, serratis; capsulâ clavato-angulatâ, suffultâ pedunculo capillaceo, longissimo; seminibus squamoso-scabris, fasciâ angustissimâ cinctis.

I found this on the mountain called Taong Dong, near Ava, in fruit in November 1826.

Capsula chartacea, 3-gona, lineas 8 longa, ostio 3-dentato; semina pauca, vix ultrà 3, parva, ovata, plana, utrinque squamulis minutis, elegantèr imbricantibus rugosa, fasciâ lævi, angustâ marginata, cæterùm aptera; albumen nullum; embryo erectus, cotyledonibus latis.

Plate CXXXIII. Fig. 1. 2. Male flower. 3. The same, dissected. 4. A detached stamen. 5. A panicle of female flowers. 6. 7. Female flowers, detached;—these and the following much enlarged. 8. Ovary and styles. 10—13. Ovary, dissected.

VIBURNUM ERUBESCENS. Tab. 134.

Viburnum erubescens, DeCand. Prodr. Syst. Nat. 4. p. 329.

Crescit in sylvis montanis Napaliæ superioris et Kamaon, florens fructusque proferens mensibus Aprilis—Junii.

Frutex, vel arbuscula, 12-pedalis vel infrà, erectus, ramosus. Rami cylindrici, pallidi, ferè albicantes, glabri; *ramuli* breves, oppositi, patentissimi; tenelli pubescentes. Folia opposita, patentia, lanceolata, nunc elliptica, acuminata, acutè serrulata, basi acutâ integerrima, suprà lucida, obliquè sulcata, subtùs nervis obliquis, parallelis, costâque prominentibus, in novellis marginibusque pubescentibus; ætate glaberrima, 2—3-pollicaria. Petioli breves, rubicundi, carnosi, suprà sulcati. Corymbi terminales, solitarii, pedunculati, erecti, ovati, obtusi, 2-pollicares, foliis parùm breviores. Pedunculi rubicundi, carnosi, teretes; *pedicelli* oppositi, divaricati, suffulti *bractearum* pari lineari, pubescenti. Flores terni vel oppositi, tubulosi, glabri, ex albo erubescentes, odore mellito gratissimi, brevissimè pedicellati. Calyx valdè parvus, 5-fidus; laciniæ ovatæ, obtusulæ. Corollæ *tubus* cylindrico-subclavatus, unguicularis; *limbus* patens, tubo dimidiò brevior, divisus in *lacinias* 5, ovato-subrotundas; *faux* nuda, pervia. Stamina 5, semiexserta; *filamenta* perquàm brevia, fauci intùs, infra fissuras limbi inserta; *antheræ* longiusculæ, lineares, subversatiles, biloculares. Ovarium inferum, læve, cylindricum, basi angustatâ instructum *bracteolis* 2, subulatis, brevissimis; 1-loculare: *ovulum* solitarium, suspensum fornici loculi angustissimi, elongati. Stylus columnaris, vix tertiam tubi corollæ partem æquans. Stigma infundibuliforme, carnosum. Bacca oblongo-cylindrica, semipollicaris, stylo persistente coronata, rubra, carnosa, glabra, 1-sperma. Semen oblongum, compressum, hinc sulco latiusculo, marginato concavum, indè parùm convexum.

This elegant shrub is rather common on the mountains of Nipal. The flowers are sweet-scented like honey; the leaves when rubbed emit a very peculiar, almost sulphureous smell.

Since the time when I communicated specimens of the family of *Caprifoliaceæ* to my illustrious friend Professor DeCandolle, who has done me the honour to undertake the description of the species in the collections under my charge, I have become acquainted with another species of *Viburnum*, in the very rich herbarium of Dr. Wight, to whom I have now the pleasure of inscribing it. It is nearly allied to the species described above, and like that it belongs to M. DeCandolle's section called *Solenotinus*. Most probably it is a native of some of the mountains of the Peninsula of India. It may be characterized in the following manner:—

V. Wightianum, foliis lanceolato-ovatis, extrorsùm acutè serratis, basi integerrimis, subtùs petiolisque stellato-puberulis, axillis nervorum lanuginosis; corymbo terminali, brevè pedunculato, bracteis linearibus, elongatis, pedicellos subæquantibus, corollis infundibuliformibus.

Plate CXXXIV. Fig. 1. 2. Flower. 3. Calyx and pistil. 4. Corolla, opened. 5. Ovary, opened. 6. A cluster of berries. 7. Berry, divided horizontally. 8. Seed. 9. The same, divided transversely.

ARUM ERUBESCENS. Tab. 135.

Folio peltato, multifoliolato, foliolis oblongo-linearibus, acuminatis, undulatis, sessilibus; petiolo, scapo vaginisque purpureo-lineatis; spathæ rubro-striatæ, cylindricæ limbo ovato, fornicato, in acumen filiforme, æquans desinente; spadice cylindrico, obtuso, lævi.

Habitat in montibus altissimis Napaliæ, florens sub pluviis.

Planta lævis, erecta, surgens e *radice* tuberosa, bipollicari, fibras multas, cylindricas exserente. Folium radicale, unicum, erectum, *limbo* plano, patentissimo, orbiculato-peltato, ferè pedali, 10—12-foliolato. Petiolus crassiusculus, cylindricus, 1½-pedalis, vaginatus, flavidus, lineis longitudinalibus, majusculis, transversè seriatis, purpureis annulatìm pictus. Foliola oblongo-linearia, valdè acuminata, undulata, deorsùm attenuata, basi angustâ sessilia, 6-pollicaria, atroviridia, subtùs glaucescentia. Vaginæ 2 vel 3, cylindricæ, attenuato-acutæ, ore obliquæ et laxiusculæ, una cum scapo purpureo-lineatæ; interior 8-pollicaris. Scapus solitarius, cylindricus, petiolo brevior, cum illo basi vaginis communibus involutus. Spatha pallida, striis albis et roseis utrinque ornata; basis 3-pollicaris, cylindraceo-convoluta; limbus paullò brevior, ovatus, fornicatus, apice descendente, attenuatâ in acumen teres, porrectum, pollicare. Spadix dioicus. Masculus haud visus. Fœmineus erectus, tubum spathæ æquans; *inferior pars* vix pollicaris, densè obtecta *ovariis* obovatis, 4-ovulatis, *stylo* conico, brevissimo terminatis; *clava* ferè 2-pollicaris, cylindrica, obtusa, basi parùm dilatata, lævis.

Plate CXXXV. Fig. 1. Spathe, opened. 2. Female spadix. 3. Detached ovary. 4. 5. The same, opened.

ARUM ECHINATUM. Tab. 136.

Folio peltato, 8-foliolato, foliolis oblongo-lanceolatis, acuminatis, deorsùm attenuatis, sessilibus; vaginis purpureo-lineatis; scapo brevi; spathæ albo-striatæ, cylindricæ, convolutæ, limbo ovato, fornicato, intùs purpureo, desinente in acumen filiforme, prælongum; spadicis clavâ cylindricâ, apice obtusissimo echinato-pilosâ.

Crescit ad apicem Sheopore montis, florens Junio.

Tuber subglobosum, glabrum, 2-pollicare. Radiculæ longæ, filiformes, pallidæ, carnosæ. Folium unicum, radicale, basi vaginatum, longè petiolatum, peltatìm 7- vel 8-foliolatum, uti tota planta læve. Petiolus cylindricus, pallidè viridis, glaucescens, pennam cygneam crassus, supernè attenuatus, 1½—2-pedalis. Foliola stellatìm patentissima, oblongo-lanceolata, attenuato-acuminata, basi attenuata et subacuta, nunc crispatula, sessilia, plana, vix undulata, suprà atroviridia, subtùs glauca, nervis gracilibus, transversalibus, intra marginem anastomosantibus, ad lucem lineolis minutis, diaphanis notata, 4—5-pollicaria. Vaginæ 2 vel 3, membranaceæ, laxiusculæ, obtusæ, ore obliquæ; *exterior* brevissima, *intima* 6-pollicaris, basin petioli ultraque dimidium scapi involvens. Scapus solitarius, gracilis, apice subclavatus, petiolo tertiò brevior. Spathæ basis oblonga, convoluta, 4-pollicaris, glaucescens, lineis albis striata, intùs purpureo-guttulata; *limbus* ovatus, fornicatus, 4-pollicaris, basi albo- et viridi-striatus, supernè intùs purpureus, marginibus subrecurvatis, apice acutâ desinens in filum gracillimum, teres, obliquè descendens, limbum ipsum longitudine æquans. Spadix dioicus, erectus, 2-pollicaris. Masculi inferior dimidia pars cylindrico-attenuata, *filamentis* obsita brevibus, sparsis, distantibus, subulatis, terminatis *antheris* quaternis vel quinis, violaceis; exterior dimidia pars, sive *clava*, crassa, cylindrica, alba, punctis minutis, seriatis, violaceis, parallelè multilineata, apice obtusissimo, vix ultra faucem spathæ exserto obsita pilis densis, brevibus, patentibus, hyalinis. Fœminei inferior pars densè obtecta *ovariis* ovatis, angulatis, 2-sporis, *stylo* brevi terminatis; *clava* exactè ut in masculo.

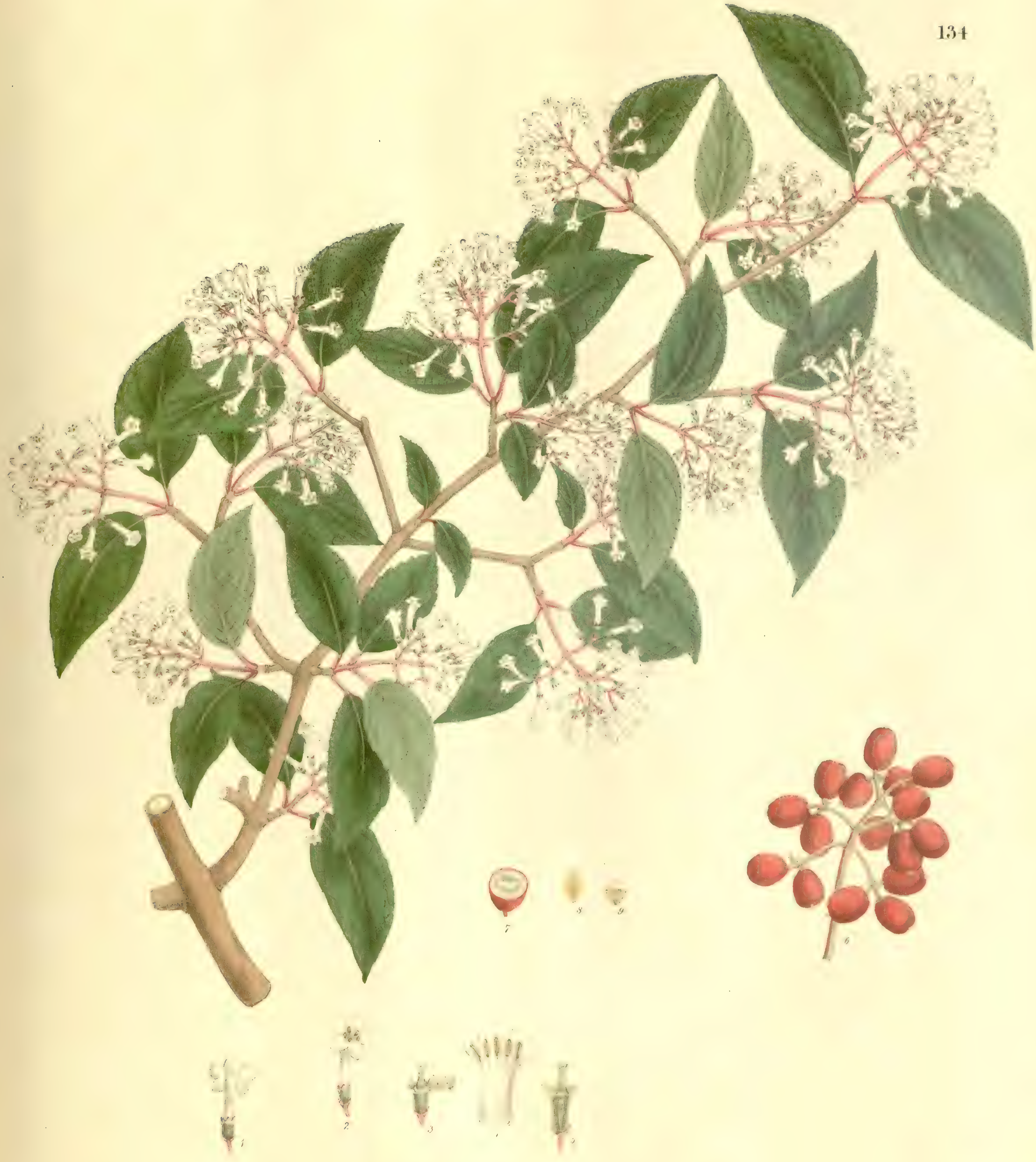
Plate CXXXVI. Fig. 1. Spathe, opened. 2. Female spadix. 3. Ovary, detached. 4. 5. The same, opened. 6. Male spadix. 7. 8. Stamens.

PANAX PSEUDOGINSENG. Tab. 137.

Tuberibus fasciculatis; foliis quaternis, nunc ternis, foliolis peltatìm quinatis vel ternatis, lanceolatis, caudato-acuminatis, petiolatis, utrinque valdè attenuatis, duplicato- et cuspidato-, nunc subinciso-serratis, secus nervos costamque suprà cano-setosis; pedunculo terminali, sæpissimè trifido, petiolos subæquante; floribus hermaphroditis; baccis 2—3-spermis.

Panax pseudo-ginseng, Wall. in Act. Soc. Med. et Phys. Calcutt. 4. p. 117.

Incolit cacumen montis Sheopore Napaliæ, florens mense Junii, fructifer Augusto.



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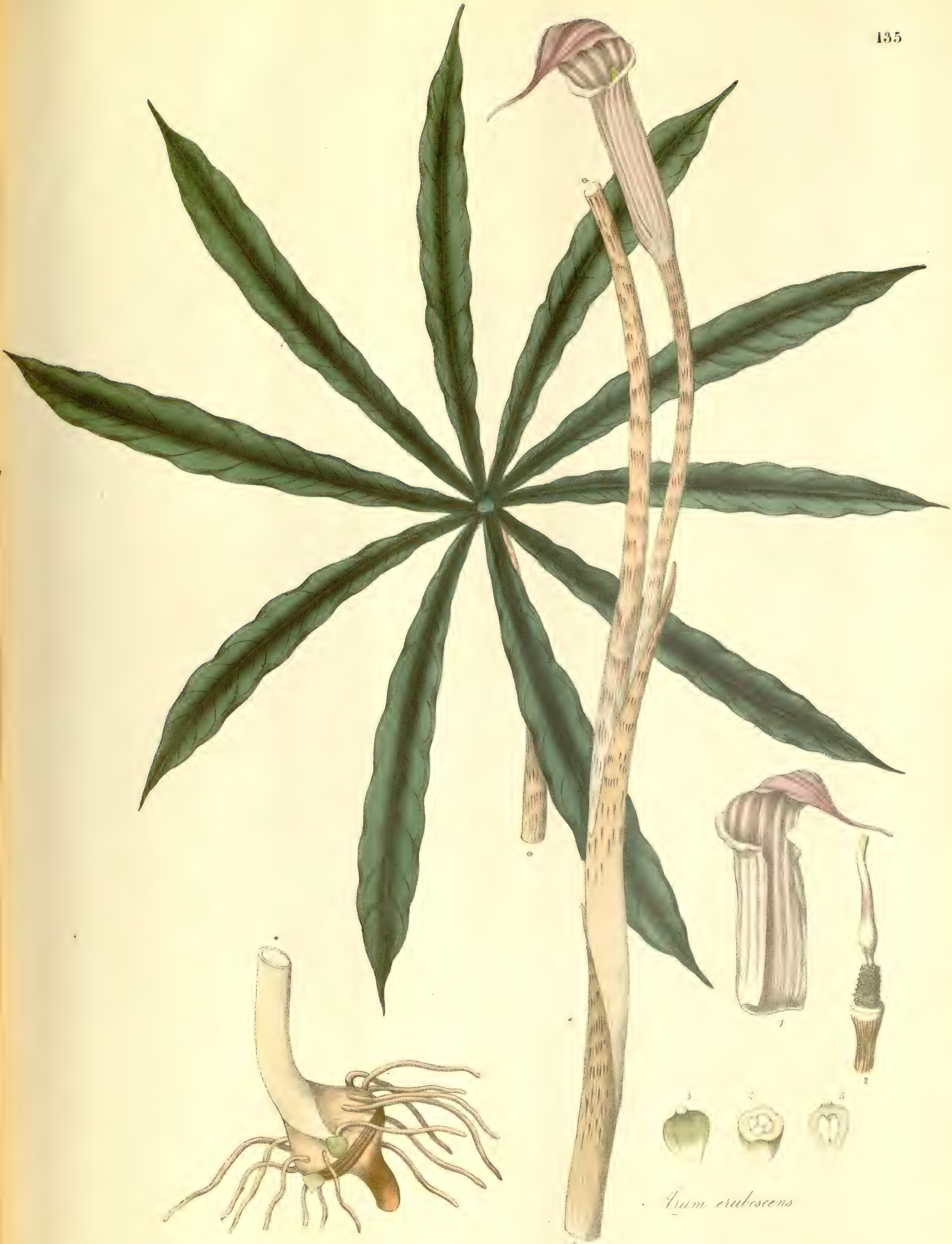
Viburnum erubescens



Arum erubescens

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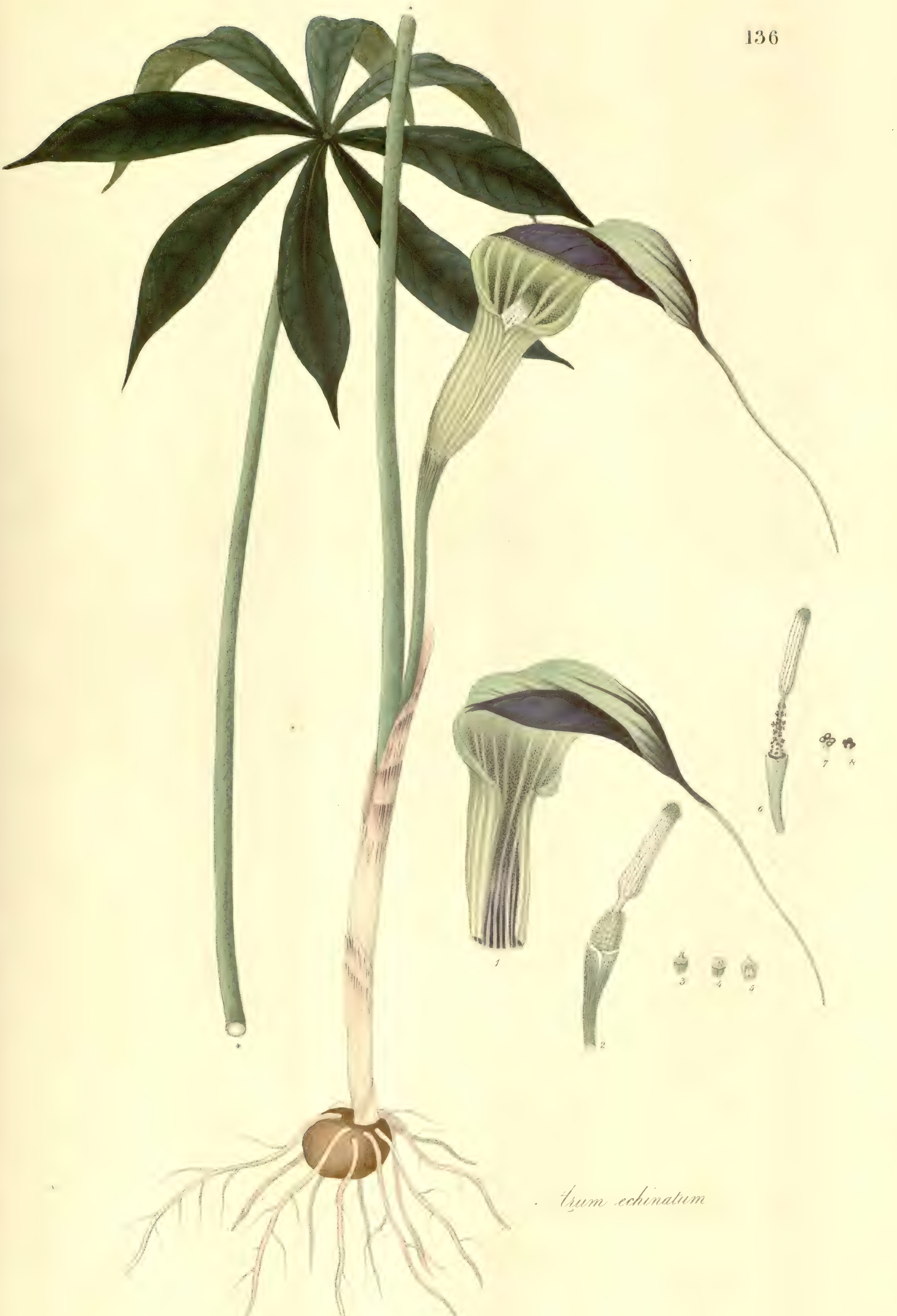

trum echinatum

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Panax pseudoginseng

Radix brevis, obliqua, pennam cygneam crassa, vestigiis caulium annotinis notata, subcylindrica, quandoque in tuber deorsùm intumescens. Tubera 3—5, approximata, sæpè deficiente radice connectente arctè fasciculata, digitum crassa, pollices 2—3 longa, glabra, transversè et parallelè levitèr rugosula, in filum crassum, radiculosum attenuata, pallidè grisea, intùs luteola, succosa, odore nullo, sapore (si quis) debilissimo, mucilaginoso, vix aromatico. Caulis erectus, simplex, gracilis, e basi calamum scriptorium usque ad digitum minimum crassa attenuatus, cylindricus, pedalis—2-pedalis, apice subpilosus, pallidus, altero latere sæpiùs purpurascens; rarò uno plures ex eadem radice. Folia ex apice caulis quaterna vel terna, verticillatìm patentia, digitata. Petioli æquales, teretes, suprà profundè sulcati, 2—6-pollicares, pilis raris conspersi, basi intumescentes et subarticulati, ibique alternantes cum foliolis imperfectis (*stipulis?*), raris, linearibus, sessilibus, vix semiunguicularibus, interdùm numero reductis, vel nullis. Foliola quina, lanceolata, in acumen gracile, nunc longissimum attenuata, basi attenuato-acuta, marginibus totis profundè et acutè duplicato-serratis, quandoque subincisis et crispatulis, serraturis longiusculè cuspidatis; peltatìm patentia, membranacea, saturatè viridia, suprà secus costam, nervos, venasque obsita setis subulatis, erectis, cano-hyalinis; rugosula, subtùs costâ nervisque obliquis, prominentibus, parùm venoso-reticulata, vix pilosula; magnitudine inæqualia: *intermedium* 4—5-pollicare, *lateralia* sensìm minora, *extima* dimidiam vel tertiam modò partem reliquorum æquantia. Petioli *partiales* vix unguiculares, teretes, pilosuli, sulcati, basi articulati. Pedunculus terminalis (caulis nempè apex continuatus) mediò vel versus basin trifidus, gracilis, teres, pilosulus, petiolis dimidiò brevior, fructifer eos æquans, rarissimè integer. Umbella terminalis, globosa, *flores* continens 20—30, parvos, hermaphroditos. Involucrum constans setis aliquot vagis, viridibus, basibus radiorum filiformium, semiuncialium interspersis. Calyx adnatus, 5-dentatus; *dentes* 5, parvuli, erecti, distantes, lanceolati, persistentes. Petala 5, dentibus calycinis alternantia, patula, caduca, lanceolata, acuta, bilinearia, intùs mediò lineâ longitudinali subcarinata. Stamina 5, petalis alterna, iisdem paullò breviora, erectiuscula, citò decidua. Ovarium turbinatum, læve, obsoletè compressum vel triangulare, 2—3-loculare; *ovula* solitaria, pendula. Styli 2—3, persistentes, subulati, paullò divergentes, intùs sulcati. Stigmata obtusa, scabrida. Bacca globosa, obsoletè triloba, nunc subreniformi-biloba, diametro cerasi parvuli, lævis, stylis et calycis dentibus emarcidis coronata, nitida, coccinea, 2—3-locularis, carne molli, pallidâ, albicante. Semen solitarium in singulo loculo, ovatum, compressum, dorso gibbosum, margine interiore subrecto ad angulum superiorem, i. e. apicem seminis, pro ingressu funiculi umbilicalis perforato. Testa crustacea et fragilis, pallidè grisea, scabriuscula. Membrana propria tenuissima. Perispermum carnosum, semen figurâ exactè referens. Embryo minutissimus, in summa parte perispermi hærens, inversus. Radicula supera.

While I was in Nipal in 1820 and 1821, I found on the top of Sheopore, one of the highest mountains which surround the great valley, near the remains of an old fortification, at an elevation of between 9,000 and 10,000 feet above the plains of Bengal, a plant which I had no difficulty in recognizing as a species of *Panax* nearly allied to the *Ginseng*, if not identical with it. There was a good number of individuals growing under the thick shade of Oaks and Rhododendrums, within an area of forty or fifty feet square; but the most diligent and frequently repeated search by myself and my assistants convinced me that the plant was fixed, as it were, to one circumscribed spot; nor were our subsequent endeavours to find it anywhere else in Nipal attended with success. The natives of the country to whom I showed it were totally unacquainted with it, and ignorant of its virtues, real or imaginary; they had not even a name for it to give me, although in ordinary cases they are so fertile and inventive, and so utterly to be mistrusted in matters connected with the nomenclature of the productions of their country. The Resident at the Court of Katmandoo, my worthy friend the Honourable E. Gardner, at my suggestion intimated to that Durbar, or Government, that the country possessed a plant which was held in the highest estimation among their Chinese neighbours, and which might perhaps prove the most acceptable gift that could be sent to the Emperor with the triennial embassy from the Rajah of Nipal. But the matter was not considered in the light of one deserving of any further inquiry; the Government being either unwilling to contribute so grand a panacea to a Court which they look upon with feelings both of awe and envy; or disinclined to ascribe to that Court so great a degree of folly as to pay the weight in gold for an insignificant root, possessing no earthly sensible qualities, and of which not even the name is known in its native country. A very advantageous consequence has resulted from this proud feeling; it is this,—that our little innocent plant continues up to this day in the undisputed and undisturbed possession of its secluded and small territory, on the top of the above-mentioned mountain.

It belongs to the class of plants called *rhizocarpic*. The root is lasting, shooting forth annually, at the commencement of the rainy season, one or two stems, which produce blossoms in June, and ripe berries in August, after which they die down to the ground. It is exceedingly like *Panax quinquefolius* of Linneus, and may perhaps ultimately be received as a variety only of that famous plant; I have however thought it best to consider it as a distinct species, of which I have given above the character and description. It seems to differ from the genuine *Ginseng* of Chinese Tartary and North America in the following respects: its tubers are more numerous and fascicled; the plant is much taller; its upper parts, chiefly the leaves, are somewhat rough with copious, gray, subulate, bristly hairs; while the other is perfectly smooth, except the leaves, which are sometimes very sparingly hairy. The leaflets are not ovate or obovate, as in that species, but lanceolate, ending in a very long acumen, their base acute, not rounded, and the margins are deeply indented with sharp and cuspidate double serratures. The inflorescence, too, differs; in our plant it consists most frequently of three long-peduncled umbels, the peduncles of which are either distinct or united below into one, with the flowers mostly all hermaphrodite; in the Linnean species the umbel is single, and the flowers polygamous: the berries in our species are mostly three-seeded, in the other they are always two-seeded.

It is highly probable that the root possesses as little claim to a place in our Materia Medica as the real *Ginseng*.

I have in vain endeavoured to preserve the young plants reared in the Honourable Company's Botanic Garden from roots and seeds sent down from Nipal. Like all other alpine productions, especially those which have a confined extent of growth, our plant is very impatient of controul, and soon perishes if removed into a climate not exactly resembling its own: it is therefore not likely that it will ever be induced to grow in Bengal.

The above description and observations have, with some slight modifications, been copied from an account of the plant presented by me to the Medical and Physical Society of Calcutta, and inserted in the fourth volume of the Transactions of that highly meritorious Body, which was printed after I left Bengal. Having since had the advantage of consulting North American specimens of *Panax quinquefolius*, Linn., in the Banksian Herbarium, gathered by Kalm and Bertram, and also those collected by my valued friend Dr. Boott, I am now convinced that the Nipal plant is another species, which may be distinguished by the marks indicated in the specific character, and further detailed in the observations I have given in the preceding pages. The question as to the identity of the plant yielding the *Ginseng* root of China and the American *Panax quinquefolius*, appears still to be involved in much obscurity, notwithstanding all that has been written on the subject. My inestimable friend Mr. Brown has justly pointed out to me that the discovery of a species so nearly allied to that of North America as my Nipal plant unquestionably is, in a country the Flora of which greatly resembles that of the northern parts of China, adds at least to the probability of a similar plant being found there also. But without further entering into this subject, I may refer the reader to an interesting and condensed account of the *Ginseng* contained in the North American Botany, and to the articles *Ginseng*, *Ninsi*, and *Sium Sisarum*, in Rees's Cyclopædia.

Plate CXXXVII. represents two individuals, one in flower, and the other in fruit, exhibiting some of the modifications both in the leaves and infloresecence. By an omission the leaves have not been shown conspicuously hairy on the upper surface, as they generally are. Fig. 1. 2. Flowers. 3. The same, dissected. 4. 5. Ovary, opened. 6. 7. Berry. 8. A berry, divided horizontally. 9. 10. Seed. 11. 12. The same, opened. 13. A detached root of the ordinary shape, with one of the tubers cut across in the middle to show the internal colour and structure.

SAUSSUREA GOSSYPINA. Tab. 138.

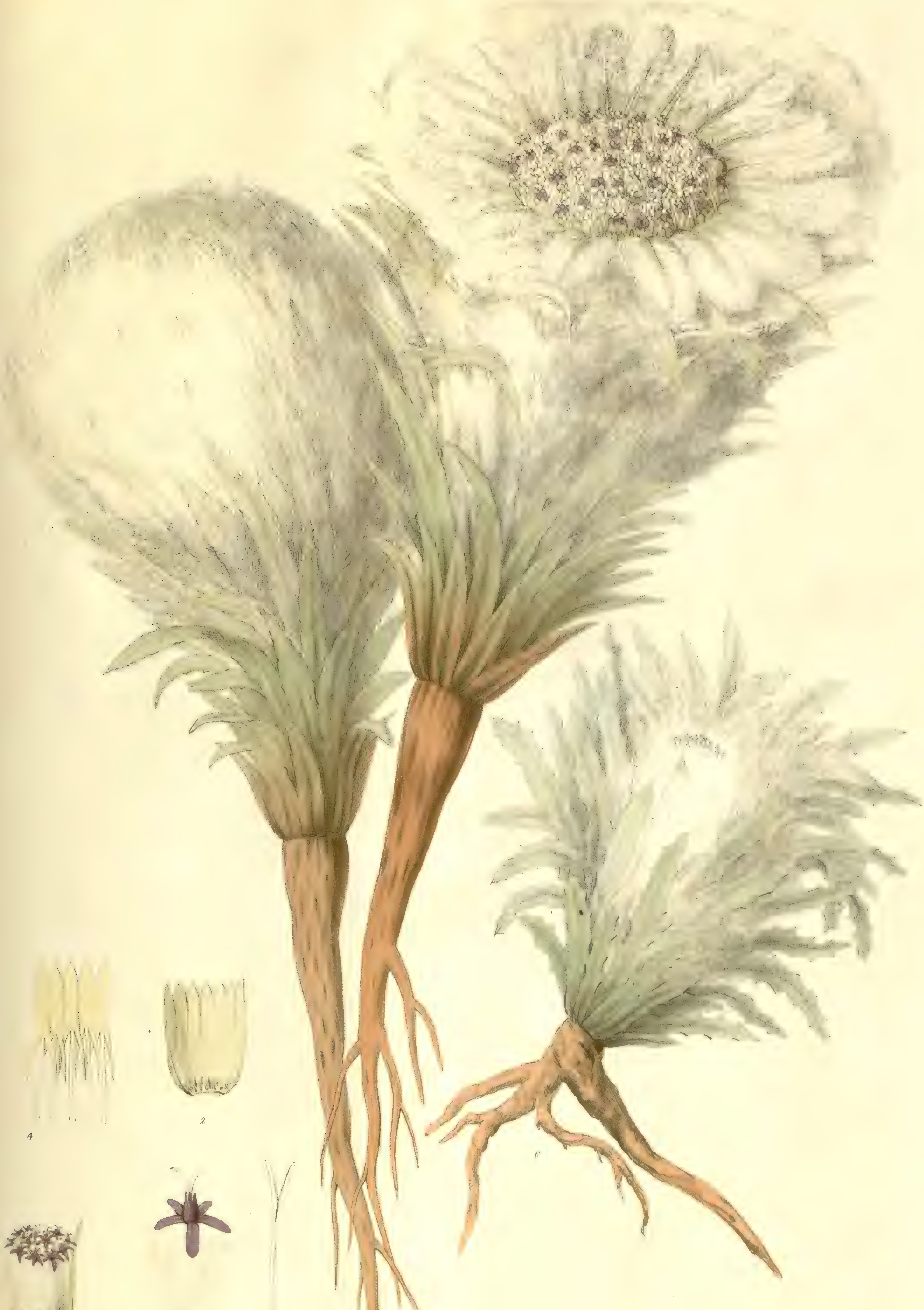
Simplex, clavæformis, densissimè gossypina; foliis linearibus, dentatis, sessilibus, basi imbricantibus; floribus intra apicem plantulæ nidulantibus, sessilibus, aggregatis, involucratis.

Incolit alpes summas Himalayæ versus nivem perennem ad Gossain Than et Bhuddrinath, florens mense Augusti.

Nomen monticolarum, *Phaen-Comul.*

Plantula annua, erecta, simplex, 6—10-pollicaris, e basi pollicem duosve crassa sensìm ampliata in formam clavatam, pugillum usque ad duos emetientem, apice obtusissimam et rotundatam, omninò vestita et quasi composita e lanugine alba, gossypina, longa, mollissima et densissima, persistente, ætate laxiuscula demùmque hinc indè in moles parvas secedente; *novella* glabrior. Radix longiuscula, perpendicularis, subfusiformis, simplex vel bifida, e basi pollicari deorsùm attenuata, glabra, fusca, intùs alba et spongioso-carnosa; *fibræ* aliquot cylindraceæ, attenuatæ, carnosæ. Caulis indivisus, cylindricus, carnosus, striato-sulcatus, pollicem ad duos crassus, inanis, omninò foliis lanugineque occultus, intùs repletus telâ subtili, arachnoideâ, candidâ. Folia valdè approximata et numerosa, undique sparsa, erecta, 4—6-pollicaria, linearia, acuminata, acutè repando-dentata, deorsùm valdè attenuata, subpetiolata, basi latâ, membranaceâ subimbricantia, subcarnosa, utrinque densissimè lanuginosa, subtùs costâ prominulâ; *inferiora* breviora, citiùs emarcescentia; *summa* floribus proxima, cumque illis intra apicem plantulæ recondita, involucriformia, linearia, attenuato-acuminatissima, integerrima, 2-pollicaria, marginibus subtùsque longissimè plumoso-lanuginosa; *juniora* magìs patula, sinuato-dentata, lætè viridia, subtùs tomento brevi obsita. Flores plurimi, subcapitati, ad apicem caulis dilatatum, convexiusculum, foveolatum, 2-pollicarem densè conferti, sessiles, subfastigiati, pallidè violacei, inodori, oblongi, unguiculares, unà cum foliis involucriformibus intra summitatem plantulæ prorsùs reconditi; exteriores suffulti *bracteâ* lineari-lanceolatâ, acuminatâ, paullò longiore. Involucrum cylindricum, constans *squamis* pluribus, erectis, planis, imbricantibus, linearibus, acutis, serrulatis, argenteo-pallidis, aridis, nitentibus, apicem viridescentem versus parùm barbatis, cæterùm glabris, exterioribus brevioribus. Flosculi circitèr 12, tubulosi, hermaphroditi, centrales vix elevatiores, involucro longiores, inserti *receptaculo* plano, villoso-scrobiculato, foveolis circumdatis denticulis albis, subulatis, erectis, inæqualibus. Corollæ *tubus* filiformis; *limbus* brevis, patens, divisus in *lacinias* 5, acutiusculas, lineares. Filamenta capillacea; *antheræ* lineares, acutæ, basi in aristas 2, longas abientes, violaceæ, connexæ in tubum cylindricum, 5-dentatum, limbo paullò longiorem. Ovarium teres, glabrum, coronatum *pappo* polyphyllo, tubum corollæ æquante, longissimè plumoso, fuscescente, extùs decrescente; *stylus* filiformis, lævis; *stigma* exsertum, 2-lobum; *lobi* oblongo-subclavati, obtusi, parùm divergentes, basi hinc puberuli. Semen cuneiforme, læve, nitidum, fuscum.

So far back as in 1818 I received, through the kindness of the Honourable E. Gardner, specimens of this most curious little plant from Gossain Than, to which I alluded in a letter to Dr. Hamilton printed in the Edinburgh Philosophical Journal, vol. 1. p. 377. While in Nipal in 1820 and 1821, my people brought me specimens in a very fresh



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M Gauci lith.

Saussurea gossypina.

and perfect state, one of which I sent to Calcutta, to a much esteemed relative of the late Sir J. E. Smith, with a request that she would forward it to that eminent botanist; in whose herbarium, now the property of the Linnean Society, the specimen is preserved, designated by the name of *Eriocoryne nidularis*, which I had proposed for the plant, and with the letter from my amiable friend attached to it, dated Calcutta, the 30th of September, 1821. But before I visited Nipal I had furnished specimens to the late Sir Joseph Banks and others, and in 1824 I transmitted numerous specimens to the Honourable Company's Museum at the India House. The author of the *Prodromus Floræ Nepalensis*, with that delicacy of feeling which does him such infinite credit, and which he has uniformly evinced ever since he has done me the honour to avail himself of the harvest gathered by myself and my native assistants, exercises his talents as a scholar, by castigating the specific name *gossypinus*, which I had given to the plant, and substituting *gossipiphora* for it, I presume on the same grounds which prompted him to disapprove a name given to another plant by the first living botanist in the following classical terms: "nomen (*Spermadictyonis*) nimis auris terribile est servandum."

Our little plant occupies rocky and exposed situations approaching the limits of perpetual snow, among the highest alps of the Himalaya, about Gossain Than, and also at Bhuddrinath, where it was found by Robert Blinkworth. Nature has protected it in a very extraordinary manner against the effects of the severe cold which prevails during nine months of the year in those lofty regions, and the intense heat of the short summer, by clothing it in a very thick and soft dress of cotton. Indeed the whole plant resembles a figure made of cotton, and formed into the shape of a club standing upright on the ground, its upper or broad end sometimes as thick as two closed fists. The root is long and tapering, almost fusiform. The stem is thick and fleshy, undivided, and completely hidden; it is hollow in the middle, the cavity being replete with a very delicate web of white fibres; it widens at the apex into a flattish, somewhat pitted area, from which the small flower-heads arise. The leaves are numerous, erect, inserted in all directions along the stem by their broad bases; they are toothed, and of a narrow linear shape; and, excepting the lowermost, and the tips of the others, they are entirely concealed in the white cotton. The flower-heads are small, oblong, pale violet, sessile, and crowded into a dense, slightly convex tuft, which is so completely imbedded within the nest formed by the copious woolliness of which the upper part of the plant almost entirely consists, that they can only be seen by dividing it gently, and by separating the inner leaves which surround the inflorescence like feathers.

Plate CXXXVIII. Fig. 1. A flower-head, detached. 2. Involucre, opened. 3. Floret, with its copious down. 4. Stamens. 5. Pistil. 6. A young plant from Bhuddrinath.

CEROPEGIA LUCIDA. Tab. 139.

Volubilis, glabra, ramosa; radice fibrosâ; foliis oblongo-lanceolatis, acuminatis, basi acutiusculis; floribus umbellatis, laciniis calycis elongatis, recurvatis, corollæ lanceolatis, longè attenuatis, apice ligulato ciliatis.

Habitat in Sillet. Floret mensibus Septembris et Octobris. In Horto Calcuttensi floret eodem tempore.

Planta gracilis, ramosa, volubilis, glabra. Radix fibrosa. Caulis Ramique teretes, glabri. Folia opposita, remotiuscula, patentia, oblongo-lanceolata, acuminata, basi acuta, nunc obtusata, 5-pollicaria, subcarnosa; suprà atroviridia, lævia, lucida; subtùs pallida, levitèr venulosa, costâ elevatâ, scabriusculâ marginibusque minutìm ciliatis. Petiolus gracilis, unguicularis vel pollicaris, pilis minutis, hyalinis asperulus. Corpuscula pauca, carnosa, subulata, axillaria et ad apicem petioli intra basin folii. Flores pulchri, virides, purpureo-guttulati, glabri, 2-pollicares, pauci dispositi in *umbellas* solitarias, extrà axillares. Pedunculi carnosi, rufescentes, cylindrici, puberuli; *communis* 1½-pollicaris; *partiales* pollicares. Calyx glaber; *laciniæ* lineari-subulatæ, elongatæ et graciles, extrorsùm recurvatæ. Corolla glabra, clavata; *limbus* tubum basi vix dilatatum longitudine æquans; *laciniæ* lanceolatæ, apice cohærentes, valdè attenuatæ in acumen ligulatum, obtusum, purpureum, pilis longis, fulgentibus ciliatum. Genitalia basin tubi occupantia, valdè parva. Coronæ stamineæ *lobi* conniventes, cuneati, obtusi.

Plate CXXXIX. Fig. 1. Calyx opened, showing the pistil. 2. Corolla opened, with the column at the base. 3. Column detached. 4. A detached lobe of the column. 5. Corpuscule, with the pollen-masses attached.

DIDYMOCARPUS OBLONGA. Tab. 140.

Habitat super rupibus Sheopore Napaliæ, florens fructiferaque sub pluviis, Junio—Septembre.

Radix fibroso-ramosissima. Caulis erectus, cylindricus, subcarnosus, pubescens, rubicundus, 3—6-pollicaris, solitarius, nunc 2 vel 3 ex eadem radice. Folia ad apicem caulis paribus 2 rarò 3 approximatissimis, decussantibus, patentissimis congesta, subverticillata, oblonga, subfalcata, attenuato-acuta, inæqualitèr duplicato-serrata, basi subobtusa, magnitudine inæqualia, 3—5-pollicaria; summum par, dum tria adsunt, multò minus; subsessilia, utrinque ferrugineo-pubescentia, reticulato-nervosa; *juniora* valdè rugosa, subvillosa; *radicalia* nulla. Petiolus ½-pollicaris, nunc modò lineam vel 2 longus, planiusculus. Pedunculi terminales, graciles, filiformes, teretes, rubicundi, sæpissimè tòt quòt folia, iisdem breviores, puberuli, bìs dichotomi; *universalis* 2-pollicaris, *partiales* breviores. Bracteæ oppositæ, nunc ternæ, infra divisuras pedunculorum, lato-ovatæ, subcordatæ, parùm dentatæ, obtusæ, amplexantes, patentes, concaviusculæ, membranaceæ, erubescentes, glabræ. Flores paniculati, brevè pedicellati, ternati solitariique ex dichotomiis, atropurpurei. Pedicelli carnosi, cylindrici, suffulti bractearum pari majusculo. Calyx campanulatus, obtusè 5-dentatus. Corolla cæteraque ut in sequente specie.

Plate CXL. Fig. 1. Detached flower. 2. Calyx, opened. 3. Corolla, opened. 4. Ovary, divided transversely.

DIDYMOCARPUS AROMATICA. Tab. 141.

Didymocarpus aromatica, Wall. in Edinburgh Philosophical Journal, vol. 1. p. 378.

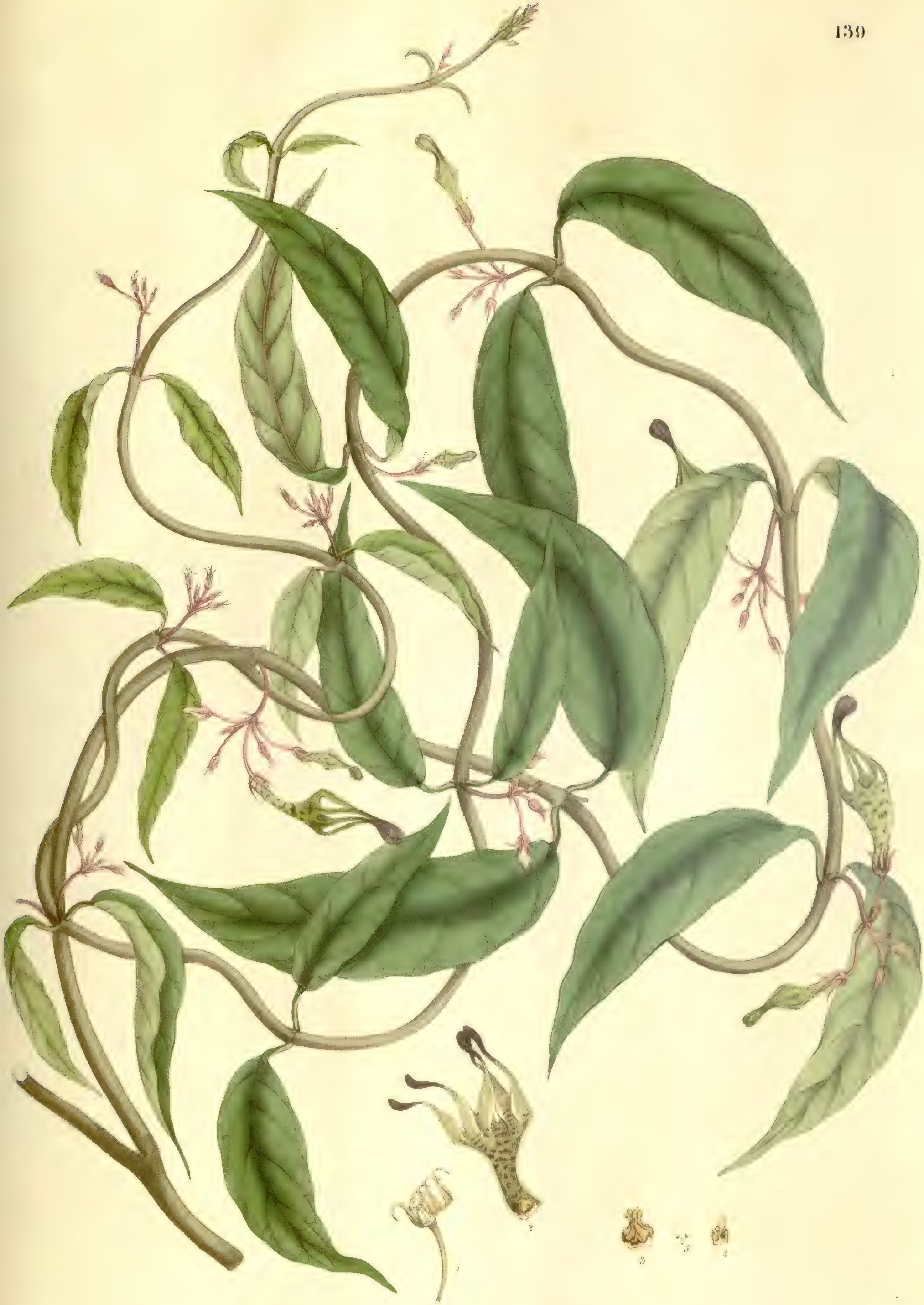
Nomen Parbutteum, *Kumkuma.*

Habitat super rupibus arborumque truncis vetustis sylvarum Napaliæ et Kamaon; florens fructiferaque Junio—Septembre.

Planta erecta, subcæspitosa, 6—10-pollicaris. Radix valdè ramosa, fibrosa. Caulis solitarius, aliquandò 2 vel 3 ex eadem radice, carnosus, cylindricus, vel levitèr compressus, indivisus, cano-pubescens, minutìm punctulatus. Folia *radicalia* pauca, prostrata, semirecondita, carnosa, pollicaria ad 1½-pollicaria, ovato-cordata, obtusa, crenulata, brevè petiolata, utrinque densissimè vestita pilis brevibus, adpressis, argenteis, punctis resinosis, rufis interspersis, suprà convexa, admodùm rugosa, subtùs concava, nervoso-venosa, citò emarcescentia; interdum 2 alia *folia radicalia* longè majora, permanentia, erecto-patentia, lato-ovata, cordata, acutiuscula, grossè et acutè dentata, utrinque pubescentia et punctata, subtùs nervoso-venosa, magnitudine inæqualia, 5-pollicaria ad palmaria, suffulta *petiolo* sulcato, carnoso, 3—5-pollicari. Folia *caulina* ad apicem caulis paribus 2 approximatissimis, decussantibus disposita, brevè petiolata, patentissima, ovata, vel ovato-lanceolata, acuta, inæqualitèr dentata, basi inæqualia, nunc subretusa, 2—3-pollicaria, utrinque adpressè cano-villosa, rugosa, nervosa, reticulata, *petiolo* insidentia tereti, suprà levitèr sulcato, ½-unciali. Pedunculi terminales, 2 vel 3, rarò solitarii, erecti, carnosi, puberuli, rubri, bìs tèrve dichotomi vel trichotomi; *universalis* 2—3-pollicaris; *partiales* pollicares. Bracteæ infra divisuras oppositæ, majusculæ, ferè unguiculares, patenti-subdecurvæ, semiamplexantes, rotundato-ovatæ, concavæ, rufescentes, extùs puberulæ, integerrimæ, nunc denticulo uno alterove notatæ, membranaceæ, deciduæ. Flores terni vel quaterni, solitariique ex divisuris exterioribus pedunculorum, atropurpurei, inodori, brevè pedunculati, subnutantes, bractearum pari parvo suffulti, paniculam terminalem latam, elevatam, multifloram formantes. Calyx carnosus, campanulato-ovatus, coloratus, lævis, persistens, ore 5-fidus; *laciniæ* ovatæ, obtusæ, inferior paullò minor. Corollæ *tubus* cylindricus, unguicularis, calyce triplò longior, basi levitèr contractus, supernè ampliatus in *limbum* patentem, ferè dimidiò breviorem, bilabiatum: *labium superius* breve, bilobum; lobi rotundati, obtusi: *inferius* porrectum, 3-lobum; lobi ovati, obtusi, intermedius duplò major, subcordatus. Faux pervia, anticè callis duobus, lutescentibus, ad basin labii inferioris evanidis. Stamina 5, inclusa; 2 *fertilium*, inferiorum, *filamenta* teretia, albida, parallela; *antheræ* ovatæ, 2-loculares, nutantes, contiguæ et conglutinatæ, loculis divaricatis; *sterilia* clavata, brevia, nuda. Ovarium oblongum, parùm compressum, longitudine calycis, læve, basi parùm contractâ cinctum annulo cylindraceo, carnoso, brevi, ore repando, pseudo-quadriloculare, polyspermum; *stylus* brevis, cylindricus; *stigma* intra faucem corollæ, carnosum, infundibuliforme, minutìm ciliatum. Capsula plana, linearis, siliquæformis, lævis, fusca, stylo permanente, subulato cuspidata, basi acuta, subpedicellata, pollicaris, in duas partes planas, parallelas longitudinalitèr partibilis, seorsùm 2-loculares, juxta margines utrinque valvis 2 dehiscentes; *dissepimentum* angustissimum, contrarium; *valvulæ* parallelæ, *interior* angustior, margine involuto adfigens *semina* innumera minuta, subulata, nuda, ferruginea.

Thirteen years ago I forwarded a short account of this plant and of the genus to which it belongs to Dr. Hamilton, who inserted it in the first volume of the Edinburgh Philosophical Journal, published in 1819. It produces an aromatic drug, which is in high repute among the Hindus, especially their ladies, who use it as a perfume. It is called *Kumkuma*, also *Rani-Govindhi*, and consists of the dried primordial radical leaves, which are wrinkled, small, ovate, covered with dense, silvery, soft, adpressed hairs, intermixed with numerous minute, brown, resinous dots. While fresh they are almost an inch long, and very fleshy; when rubbed between the fingers they assume a reddish tinge. Their fragrance is of a very delightful kind, and continues long after they have been dried. Indeed all the species of this genus possess in a greater or less degree a peculiar fragrance, which is elicited by rubbing the green parts, but which is entirely lost in the dried state, except in the species just described.

With regard to this genus and the tribe of *Cyrtandraceæ* to which it belongs, I shall here only notice that the



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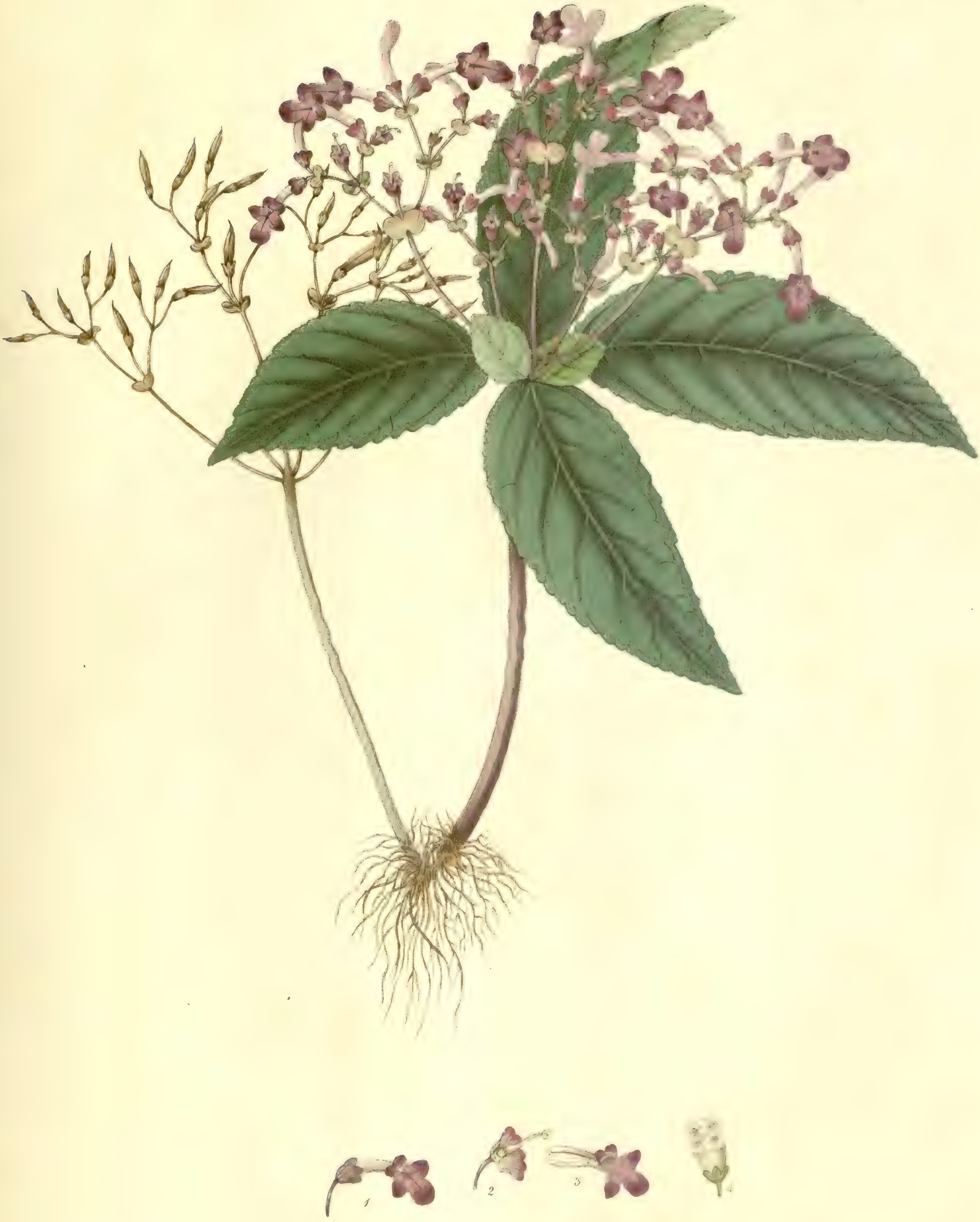
Ceropegia lucida



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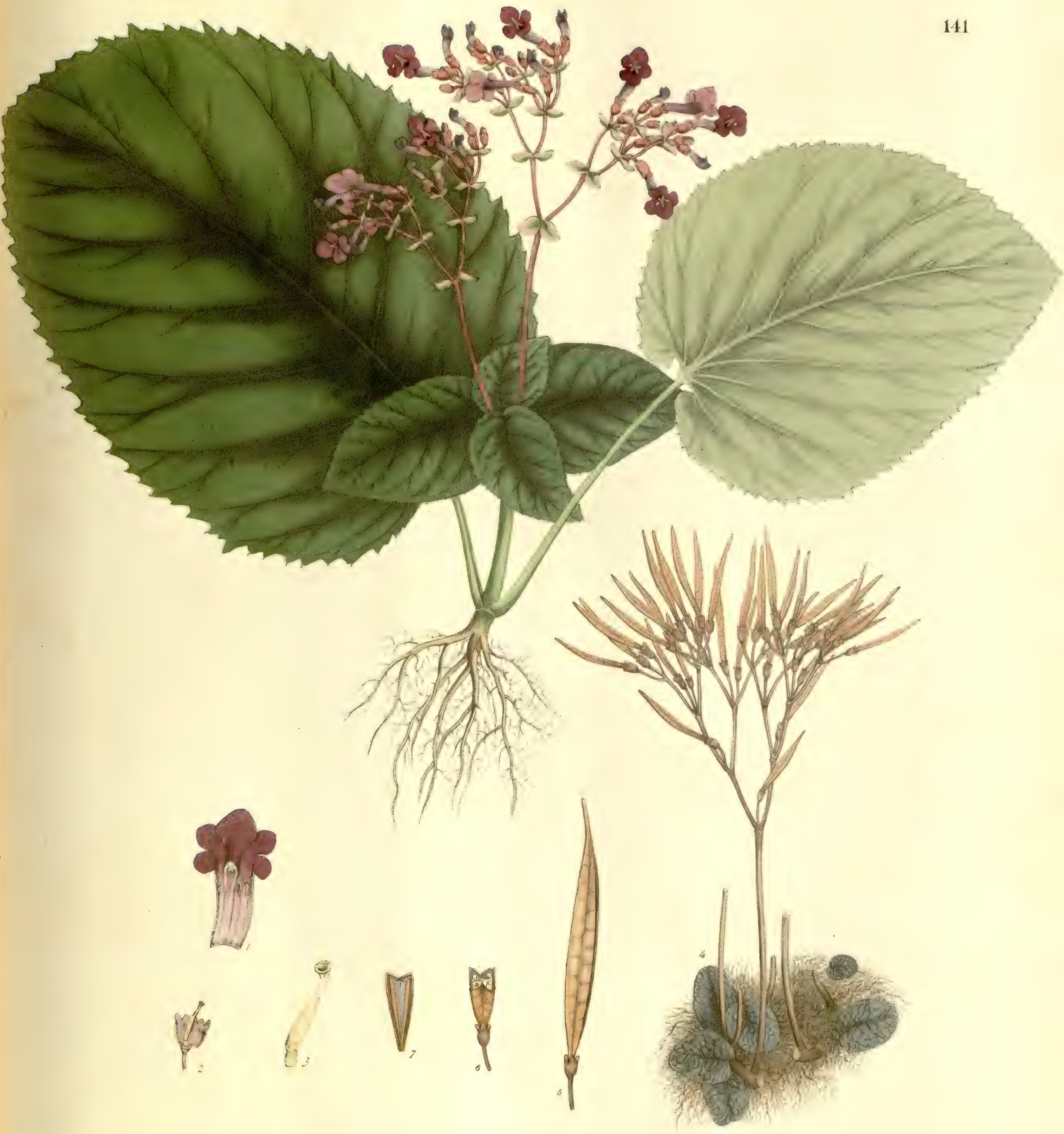
Didymocarpus oblonga



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Printed by Engelmann Graf, Coindet & Co
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Didymocarpus aromatica.

former was first described by me in the paper referred to above, and afterwards by my departed friend Mr. Jack in the Malayan Miscellanies, vol. 1. published in 1820. Mr. Don afterwards gave an account of two genera belonging to the family to the Wernerian Society, before which it was read in January 1822; it was printed in the Edinburgh Journal of Sciences, vol. 7. (for 1822.) Mr. Jack sent an account of the family to Mr. Lambert, which was presented to the Linnean Society in May 1822, and inserted in the 14th volume of their Transactions, published in 1823.

Plate CXLI. Fig. 1. Corolla, opened. 2. Calyx, opened. 3. Pistil. 4. A withered stem, with ripe capsules, and some recent primordial radical leaves. 5. Capsule. 6. The same, divided horizontally. 7. Section of one of the two parts of the capsule.

DISCHIDIA Rafflesiana. Tab. 142.

Foliis subrotundo-ovatis; ascidiis confertis, pendulis, petiolatis, oblongo-ovatis, angulatis, obtusis; coronæ stamineæ lobis oblongis, obtusis, incurvis; folliculis lævibus.

Crescit in Singapur, super arboribus radicans, florens fructiferaque mense Novembris. Ad Malaccam et Sallongohr alibique, Gerardus König in Herbario Banksiano.

Frutex carnosus, lactescens, pallidè viridis, glaucescens, ramosissimus, altè latèque super arborum truncis radicans et serpens, supernè laxè dependens. Rami longissimi et gracillimi, teretes, nodoso-articulati; *inferiores* pennam anserinam crassi, appendiculati, valdè radicantes; *superiores* foliiferi, nutantes, subfiliformes. Radiculæ præcipuè juxta ramos inferiores provenientes, fasciculatæ, ramosissimæ, capillaceo-fibrillosæ, longæ. Folia exactè opposita, remota, bifariè patentissima, suborbiculata, obtusa, basi subretusa, nunc rotundato-ovata, unguicularia, pollicaria vel sesquipollicaria, utrinque acutiuscula, insidentia *petiolo* crasso, cylindrico, transversè rugosulo, vix 2-lineari; admodùm crassa et carnosa, glauca, suprà plano-convexa, ad insertionem petioli munita ciliis paucis, carnosis, subulatis, citò evanidis, subtùs concaviuscula, avenia et enervia, marginibus recurvatis, scindentibus. Ascidia sive *appendices* ad ramos inferiores conferta, approximata, opposita, altero sæpè deficiente, brevè petiolata, pendula, foliis paucissimis interspersa, carnosa, pallidè viridia, glaucescentia, demùm flavicantia et emarcescentia, 2—4-pollicaria, oblonga vel ovato-oblonga, levitèr curva, complanata, obtusa; nunc minima, ovata; ad latera obtusissimè et parcè costato-angulata subfoveolataque, basi parùm contractâ, gibboso-rotundatâ, inversâ, ita ut formatur *tubus* amplus, sed vix unguem longus, utrinque pervius, hìnc, ad latus nempè petiolo oppositum integer, illìnc fissus, ostio exteriore rugoso, tumido, ferè circulari, interiore, cavitatem ascidii respiciente, libero, obliquo, margine recurvato; *cavitas* angusta, plùs minùsve repleta radiculis densis, capillaceis, e rami proxima parte, imo ex ipso petiolo, vel ab utroque loco oriundis, trunco uno duobusve per introitum istum liberè decurrentibus; parietes atropurpurei, læves, nitidi; *petiolus* brevissimus, istos foliorum exactè referens, apice extùs serie ciliarum subulatarum, carnosarum, citò emarcescentium, cicatrices linquentium. Flores pallidè flavi, lineas 3 longi, dispositi in *umbellam* parvam, rotundatam, solitariam, extra-axillarem petiolorum tàm foliorum quàm ascidiorum, istis dimidiò, hisce multotiès breviorem, pedunculatam, peractâ floratione parùm elongatam et subracemiformem. Pedunculus cylindricus, carnosus, semiuncialis, apice capitato-incrassatus et foveolatus pro insertione florum. Pedicelli teretes, vix unguiculares, minutìm puberuli, basi suffulti *dentibus* duobus foveolæ apicis pedunculi bracteæformibus. Calyx patentissimus, profundè divisus in *lacinias* 5, lanceolatas, acutas, membranaceo-marginatas, ciliatas. Corolla carnosa, ovata, obsoletè 5-sulcata; *limbus* contractus, subcylindricus, divisus in *lacinias* 5, lineari-lanceolatas, obtusiusculas, minutìm puberulas, conniventi-parallelas, versus apicem convexo-gibbosulas, æstivatione valvatas. Columna fructificationis corollâ dimidiò brevior, ovata, apice conica, obtusula. Corona staminea columnam dimidiam vix longitudine superans, 5-phylla; *foliola* antheris opposita, levitèr recurva, profundè biloba, basi oblongâ, latiusculâ distantia; *lobi* oblongo-lineares, parùm divergentes, incurvi, apiceque obtuso introrsùm nutantes. Antheræ sagittatæ, obtusæ, apice membranaceo stigma obtegentes; *lobi* basis longè producti, ligulati, verticales. Massæ tenuissimæ, cereaceæ, planæ, lineares, pallidè flavæ, basi receptæ glandulâ corneâ, clavatâ, adscendente, è viridi fuscescente, ad apicem concaviusculâ, paullò supra basin *corpusculi* oblongi, sulcati, fusci, lateralitèr insertâ. Ovaria 2, semicylindrica. Styli brevissimi. Stigmata acutiuscula, occulta. Folliculus solitarius, subulatus, extrorsùm attenuato-cylindricus, obtusissimus, basi vix angustatus, lævis, ferrugineus, 2-pollicaris. Semina valdè parva, plana, oblongo-obovata, margine submembranaceo, crenulato, supernè versus umbilicum evanido. Coma sericea, copiosa, semine multò longior. Perispermum tenue. Cotyledones parvi, ovati, obtusi. Radicula longa, cylindrica.

In the Banksian Herbarium there are specimens of this remarkable plant, which were found by König, and inscribed in the following manner by that accurate and indefatigable botanist: "Genus novum contortarum? Fulcra 5 extra nectarium ♈. Corolla monopetala, inflata, margine 5-dentato; reliquæ ut in Asclepiadibus. Habitat in sylvis copiosè prope Malaccam et Sallongohr; alibi rarior. Nummularia lactea minor, Rumph. Amb. tom. 5. p. 471. tab. 175. f. 2. et 3. Stipulæ reniformes; ast vesiculæ, cicatricibus verrucosæ, sunt neglectæ in figura." One of the specimens was gathered in September 1772, and sent from Madras by Mr. Robertson. It is a very extensive, branchy, smooth shrub, climbing over the trunks and larger branches of trees by means of numerous branchy and fibrous radicles, which are produced in great abundance along the larger branches. All the upper parts are fleshy and smooth, of a pallid glaucous-green colour, without being in the least mealy, abounding in a thick and viscid white milk. The young branches are very long and slender, almost filiform, hanging down loosely. The leaves are disposed in remote pairs; they are thick and fleshy, of a broad oval, or nearly round form, an inch to an inch and a half long, without any visible nerves or veins, convex above, concave underneath, with sharp and recurved margins, supported by means of short, thick, cylindrical petioles. Along the lower branches, and very sparingly if at all intermixed with the leaves, are produced numerous large appendages, of a very singular structure, which give the plant a remarkably bulky and grotesque appearance, contrasting in a striking manner with that of the slender and pendulous, almost naked branchlets. They consist of crowded, opposite, pendulous, fleshy bags or reservoirs, from two to five inches long, of an ovate or oblong, more or less compressed form, the margins and apex blunt, the sides very irregularly and obtusely angular and wrinkled, perfectly smooth and shining, and destitute of nerves or veins. Their base or upper extremity is hollow and inverted, so as to form a short and wide tube or inlet to the cavity; that end of the tube which forms the opening at the base of the bag is wrinkled and convex, and on its inner side is inserted the very short, cylindric, curved stalk, by which the bag is attached to the branch, and which resembles in every respect the footstalks of the leaves, having moreover, like those, a series of small subulate bodies externally at its end; the side of the tube which corresponds to the insertion of the stalk is the shortest, and is slit longitudinally; the inner opening is oblique, with recurved, free margins. The cavity of the bag is narrow, and contains always a dense tuft of radicles, which are produced from the nearest part of the branch, or even from the stalk on which the bag is suspended, and which enter through the inlet by one or two common branches; its sides are smooth and shining, of a dark purple colour. I am unable to offer any conjecture as to the immediate use of these curious reservoirs, unless it be to protect the tender roots, which are always found in them in great luxuriance; for after continuing a certain time, the bags acquire a yellowish hue and gradually decay, leaving the roots to attach themselves to the trunk of the tree on which the plant grows. My excellent friend Mr. Lindley considers them as modified forms of leaves; an opinion which derives confirmation from the presence on their footstalks of the small subulate bodies, which are also found on the proper petioles of this plant, as well as of most, if not all the other members of the natural family to which it belongs. The bags contain generally a great number of small and harmless black ants, most of which find a watery grave in the turbid fluid which frequently half fills the cavity, and which seems to be entirely derived from without.

I found the plant at Singapur, on an excursion with the late Sir Stamford Raffles; and to that most amiable and excellent man, my dear departed friend and patron, I dedicate it. I have met with a plant very closely resembling it on the banks of the river Attran in Martaban, near Assamee, with flower and fruit, in the month of March: respecting this and some other species with which I am acquainted I offer the following observations.

D. clavata, foliis subrotundo-ovatis; ascidiis confertis, pendulis, subsessilibus, cylindricis, clavatis, arcuatis, marginatis, obtusè cuspidatis; coronæ stamineæ lobis oblongis, obtusis, incurvis; folliculis puberulis.

This species resembles *D. Rafflesiana* in its habit and mode of growth, and in producing abundance of reservoirs. These latter are however of a very different form; they are club-shaped, slightly curved, five inches long, compressed, surrounded with a thin and narrow margin, and gradually enlarging from the base into a rounded apex, which is obtusely pointed on one side; their structure is in every respect similar to that of the other species, and their cavity is always filled with roots. The leaves are broad ovate, almost orbicular, with an acute point, concave underneath; petioles very short. Flowers precisely as in the Singapore plant; they are yellow, with greenish lines between the laciniæ. Follicle solitary, cylindric, subulate, two inches long, pubescent.

D. bengalensis, Colebr. A native of Sillet.

D. cuneifolia, foliis cuneatis, subretuso-cuspidatis, basi valdè attenuatis, ramisque furfuraceis.

I found this rooting on trees on the banks of the Attran river, without flower or fruit, towards the end of the month of March. It is undoubtedly a species of *Dischidia*, and is nearly allied to *D. bengalensis*, but differs essentially in the points contained in the above specific character.

D. Nummularia, Brown; *Nummularia lactea minor* (prima), Rumph. Amb. vol. 5. p. 472. t. 176. f. 1.* I found this in flower and fruit in March 1826, on the Attran river, near the place where *D. Rafflesiana* grows; also at Penang and Singapur, without flower, towards the end of 1822. Vahl's *Collyris minor*, Act. Soc. Hist. Nat. Hafn. vol. 6. p. 111. may perhaps be a different species from Rumphius's plant, which that author quotes as a synonym; it seems to be the same as a plant from the East Indies, gathered by König, of which I have seen specimens in the Banksian Herbarium, with oval, rather long-petioled leaves, which are not mealy. The structure of the columna staminea is precisely like that of *D. Rafflesiana*, and differs therefore in some degree from Mr. Brown's plant, on which he founded his genus.

D.? Collyris. *Pustula arborum*, loc. cit. tab. 175. f. 3. On this plant Vahl founded his *Collyris* (loc. cit. p. 109.); and more recently Dr. Blume has established on it a genus which he calls *Conchophyllum*, (Bijdr. p. 1060.) I found

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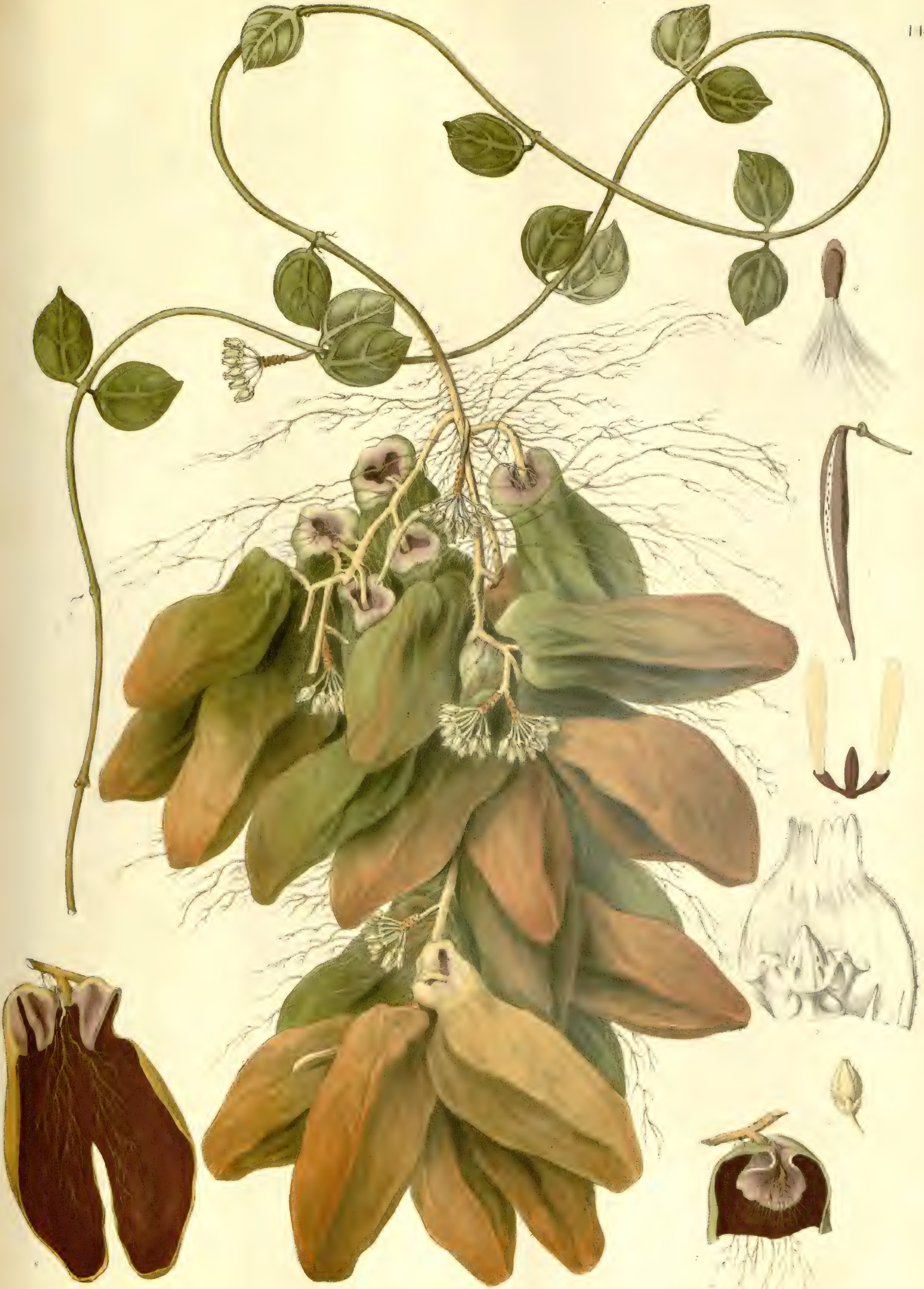
* The late Dr. Hamilton has pointed out in his copy of this work, now belonging to the Botanic Garden of Calcutta, that most of the references to Tabb. 175 and 176 of the 5th Volume are wrong. Tab. 175. fig. 1. represents *Nummularia lactea major, alba*, p. 470, towards the bottom of the page: fig. 2. is *Numm. lact. maj. (prima)* p. 470, and not *Numm. lact. minor*: fig. 3. is correctly referred to *Pustula arborum*, p. 473. Tab. 176. fig. 1. is *Numm. lact. minor (prima)*, p. 472: fig. 2. is *Numm. lact. minor (altera)*, p. 473, and not *Numm. lact. major.*



Dischidia Rafflesiana

[illegible]

this plant without fructification on the banks of the Attran, in the beginning of April. It is strikingly like Rumphius's plant, except in respect to the leaves, which in ours are very small and quite orbicular; and not lanceolate, as represented in the figure, which has been pronounced bad by Dr. Blume, and which in fact does not agree with the author's text. Vahl's *Sperlingia* (loc. cit. p. 112.) corresponds with *Hoya*, Br.

Plate CXLII. Fig. 1. Flower. 2. The same, opened. 3. A pair of pollen masses, attached to their glands and corpusculum. 4. Follicle. 5. Seed. 6. 7. Reservoir opened, to show the internal structure.

CERASUS PUDDUM. Tab. 143.

Cerasus Puddum, DeCand. Prodr. vol. 2. p. 537.
Prunus Puddum, Roxb. MSS.
Prunus sylvatica, Roxb. Hort. Beng. p. 92.
Prunus, Hardwicke in Act. Soc. Asiat. vol. 6. p. 362.

Crescit in montibus Hindustaniæ meridionalis, Napaliæ, Kamaon, Deyra, Sirmore, alibique, florens Octobre et Novembre, fructifera Aprili et Majo.

Arbor magna, trunco diametrum pedalem usque ad 2-pedalem emetiente. Rami cylindrici, epidermide lævi, nitidâ, cincreâ vel brunneâ. Folia sparsa, approximata, oblongo-lanceolata, attenuato-acuminata, subæqualitèr argutè et cuspidato-serrulata, basi obtusiuscula, 3-pollicaria, glaberrima, suprà parùm rugosa, lucida, subtùs opaca, minutìm reticulata, costâ gracili, elevatâ, nervis obliquis, parallelis, numerosis, ad axillas concaviusculis. Petiolus cylindricus, ferè pollicaris, suprà angustè canaliculatus, apice pari uno duobusve glandularum planarum, sessilium, mucosarum. Stipulæ nullæ nisi *squamæ gemmarum* lanceolatæ, caducissimæ. Flores pulcherrimi, rosei, odorati, glabri, dispositi in *corymbos* ovatos, bracteatos, pedunculatos, ante evolutionem foliorum densissimè ad ramorum nudorum apices confertos. Pedunculi teretes, carnosi, rubicundi; *communis* vix pollicaris, basi apiceque *squamis* gemmarum diutiùs persistentibus, magnis, membranaceis, spathulato-oblongis, acutis, extrorsùm glanduloso-dentatis, nunc subincisis, subunguicularibus, villis longis, canis ciliatis; *partiales* filiformes, unguiculares. Calyx cylindrico-clavatus, lævis, coloratus, unguem longus, 5-fidus; *laciniæ* ovatæ, acutæ, patentes, demùm reflexæ. Petala subrotundo-ovata, patentissima, venosa, unguicularia, apice 2-denticulata. Filamenta numerosa, lævia, patentia, exteriora petalorum longitudinem æquantia; *antheræ* ovatæ. Ovarium læve; *stylus* staminibus parùm brevior; *stigma* stellatìm 3-dentatum. Drupa parva, subovato-rotundata, lævis, pendula, hìnc flava, indè rubra, putamine ovato, cuspidulato, rugoso, parietibus crassissimis.

This beautiful tree was discovered on the mountains between Hurdwar and Srinaghur by my highly esteemed friend Major General Hardwicke, who published the following short account of it in the Asiatic Researches, vol. 6. p. 363. "*Prunus.*—A cherry tree of common size, found in several places between the mountains. Leaves irregularly alternate, petioled, serrulated, smooth, shining, with two globular glands at the base. The fruit in clusters, about the size of the black Hertfordshire cherry, of a roundish oval shape, acid and adstringent in a ripe state, and of a dull red colour. The nut furrowed and thick. The wood is much esteemed among the travelling *Fakeers* for bludgeons and walking-sticks, and known in common by the name of *Puddum*."

The tree was found about the same time by Francis Pierard, Esq. formerly in the civil service of the Honourable Company, and now residing at Kew, to whose zeal in the cause of botany the Garden of Calcutta is indebted for several very valuable plants, among which I may name the interesting *Dendrobium Pierardi*, and *Pierardia sapida*. Both these gentlemen found the tree on the mountains about Hurdwar. I have also met with it there, and likewise in the valley called Deyra, in fruit in April. In Nipal it is very common, and when in flower in the months of November and December it is a most charming object, being entirely covered with its innumerable rounded clusters of rose-coloured blossoms, which completely conceal the branches. At all other seasons it forms a large, rounded, shady tree. The fruit is of the size of a very small cherry, yellow on one side, and dark red on the other, owing to one half of it only ripening; its taste is pleasant and refreshing, although never quite sweet. In the less elevated regions of Deyra this cherry ripens better than it does in Nipal, and both I and the party who did me the honour to accompany me on my excursion in that valley in 1825, enjoyed it almost as much as we should have done had we been encamped under a grove of cherry trees in Europe. The wood is reckoned very useful in Nipal; specimens of it and of about five hundred other sorts of wood from the East Indies, which the Honourable Court of Directors of the Company have placed at the disposal of the Society for the Encouragement of Arts, are now in a course of examination, and will be fully reported upon by the highly esteemed and excellent Secretary of that Society. To this report, which will form part of their Transactions, I beg to refer my readers for an account of the woods of most of the trees described in this work.

Plate CXLIII. Fig. 1. A flower opened. 2. The stone of the fruit.

SMILACINA PURPUREA. Tab. 144.

Radice moniliformi-articulatâ; caule adscendente, subflexuoso, supernè pedunculisque villosis; foliis alternis, secundis, sessilibus, amplexicaulibus, ovatis, acuminatis, plicatis, ciliatis; racemo terminali, subramuloso.

Habitat in montibus summis Napaliæ et versus Gossain Than, florens sub pluviis; *varietas* racemo simplici, floribus albis, foliisque magnis crescit in Kamaon, ubi detexit R. Blinkworth.

Radix carnosa, repens, subramosa, catenulato-articulata, radicem *Convallariæ oppositifoliæ* ex asse referens; *articuli* depresso-globosi, fusci, glabri, *fibras* numerosas, crassas, cylindricas emittentes, vertice exsculpti foveâ magnâ, insertionis caulis præteriti anni superstite. Caulis unicus, rarò duo tresve, erectus, carnosus, cylindricus, pedalis 2-pedalisvè, basi levitèr adscendente, pennam cygneam ad digitum minimum crassâ, pallidâ, parcè et brevitèr vaginatus; sursùm attenuatus, fuscescens, lineolis purpureis, parallelis guttulatus, ad insertionem foliorum subarticulatus obsoletèque flexuosus, supernè levitèr pubescens. Vaginæ 3, membranaceæ, 1—2-pollicares, cylindricæ, basin caulis arctè amplectentes, oris obliqui apice acuto, patulo; *exterior* brevissima. Folia alterna, subsecunda, interstitiis duplò longiora, inferiora paullò remotiora, ovata, brevè acuminata, basi rotundatâ amplicaulia, sessilia, infimum subvaginans, levitèr plicata, margine parùm undulato pilis copiosis, brevissimis ciliata, suprà lucida, subtùs pallida, subcarinatò 9-nervia, 2—4-pollicaria. Flores parvi, odorati, nutantes, sparsi, densè approximati, subsecundi, atropurpurei, nunc albi, dispositi in *racemum* terminalem, rectum, cylindrico-attenuatum, 3—4-pollicarem, simplicem, vel basi ramulis paucis, brevibus munitum, supra folium terminale parùm elevatum, suffultum *pedunculo* brevi, cum pedicellis rachique carnosis, teretibus, cano-villosis. Pedicelli unguiculares, suffulti bracteolâ lineari, acutâ, emarcescente, unâ alterâve per pedunculum sæpiùs vagâ. Perianthium subcampanulatum, carnosum, profundè 6-partitum; *lobi* oblongi, obtusi, 1-costati, intùs apice viridi-maculati, membranaceo-marginulati, serie duplici, alternante dispositi, lineas 3 longi, exteriores parùm angustiores. Stamina 6, erecta, perianthio dimidiò breviora, basi ejus inserta, lobis opposita, lævia; *filamenta* subulata; *antheræ* ovatæ, parvæ, erectæ, biloculares, viridescentes. Ovarium ovatum, læve, subtriangulare et 3-sulcatum, 3-loculare; *ovulum* 1 vel 2 in singulo loculo, axi adfixum; *stylus* brevissimus, 3-angularis; *stigma* carnosum, triquetrum, scabriusculum.

I have remarked above that a variety of this plant with large leaves, simple racemes, and with white, somewhat larger flowers, grows in Kamaon, whence it was sent to me by Robert Blinkworth. This may perhaps prove a separate species, but I am as yet unable to distinguish the plants specifically.

Plate CXLIV. Fig. 1. 2. Flower. 3. The same, opened. 4. Ovarium, opened.

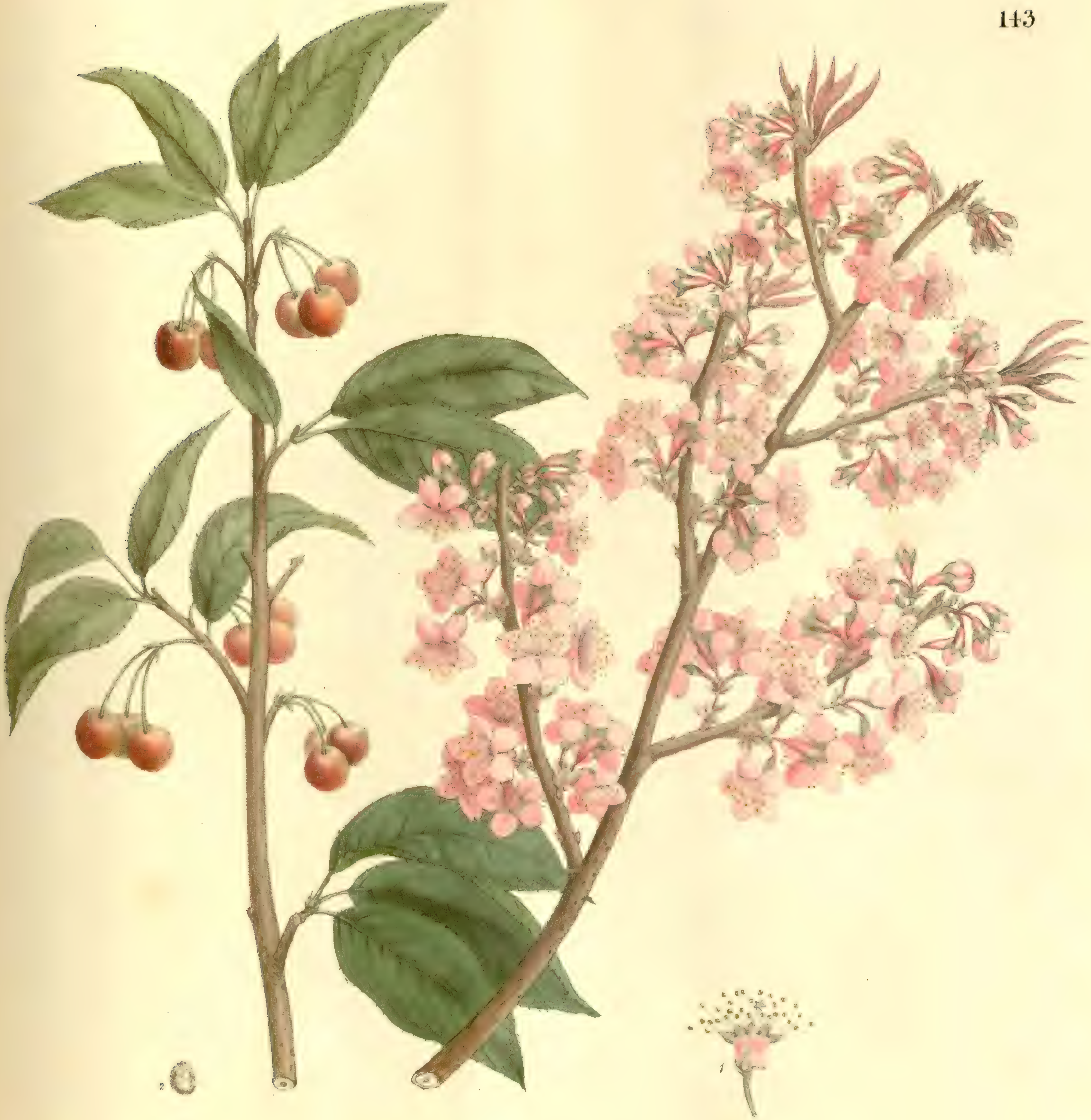
CRINUM HERBERTIANUM. Tab. 145.

Foliis undique sparsis, recurvato-nutantibus, valdè undulatis, membranaceo-marginulatis, subtùs scapoque erecto, compresso subfurfuraceis; floribus densè umbellatis, subsessilibus, deflexo-cernuis; limbi æqualis laciniis revolutis, filamentis declinatis, stylo discolore.

Crescit in Pegu prope Rangoon, in fossis. Floret tempore pluvioso.

Bulbus magnus, globosus, vix in collum supernè contractus, diametro 5—7-pollicari. Folia undique sparsa, numerosa, laxè patentia, recurvato-nutantia, 1½—2-pedalia, basi vix contractâ laxè imbricantia caulemque semipedalem simulantia, mediò digitos 4 lata, indè attenuato-acuminata, valdè undulata, membranaceo-marginulata minutìmque crenulata; suprà lato-canaliculata saturatè viridia, subtùs valdè glauca, convexa, multilineata. Scapus solitarius, nunc 2 ex lateribus bulbi oppositis simul provenientes, erectus, pollices 20 longus, digitum medium crassus, complanatus, furfuraceus, maxima ex parte purpureus, hinc viridescens. Umbella densa, magna, depresso-rotundata, diametrum usque ad pedalem emetiens. Spatha magna, coriacea, 2-valvis; *lobi* oblongi, obtusi, e viridi purpurascentes. Flores valdè speciosi, magni, fragrantissimi, 12 ad 16 in umbella collecti, subsessiles, curvaturâ magnâ deflexo-cernui, campanulato-infundibuliformes, erubescentes, limbo fauceque extùs latò purpureo-fasciatis; æstivatione oblongo-cylindrici, erecti, cuspidibus 5 elongatis, divergentibus cornuti. Squamæ lineares, canaliculatæ, erectæ, albæ, floribus intermixtæ, eorumque tubos subæquantes. Corollæ tubus ferè 4-pollicaris, basi viridis, cylindraceus, obsoletè 3-angularis, indè curvatus sensìmque ampliatus, subcampanulatus, purpureo-fasciatus; *limbus* æqualitèr patens, laxiusculè nutans, tubo tertiâ parte brevior; *laciniæ* oblongo-lanceolatæ, acutiusculæ, recurvatæ, apice revolutæ. Stamina declinata, vix limbi dimidium superantia; *filamenta* alba, filiformia, compressiuscula; *antheræ* lineares, longæ, arcuatæ, coloris aurei. Ovarium compressum, *pedunculo* admodùm brevi, lato suffultum; *stylus* purpureus, longitudine staminum, cumque iis declinatus, apice adscendens; *stigma* obtusiusculum.

My most esteemed friend the Rev. Dr. Carey of Serampur suspects with me that this beautiful species is distinct from *Crinum zeylanicum*, which I found growing together with it about Rangoon. It closely resembles the figure of *Amaryllis zeylanica* in the Botanical Magazine, vol. 30. n. 1171., but the colour of its flowers is by no means so dark as in that plant. I have had the true *C. zeylanicum* and our plant in flower at the same time at the Calcutta Garden; but I regret that I have not been able to fix on any very satisfactory character by which to distinguish them. I have dedicated the plant here represented to the Hon. and Rev. W. Herbert of Spofforth, whose indefatigable zeal in the cultivation of foreign plants, and whose valuable labours in the arduous family of *Liliaceæ* are so well known and so highly prized.



Gorachund del.

Printed by Engelmann, Graf, Coindet & Co.

M. Gauci lith

Cerasus Puddum

Gorachand del^t

M. Gauci lith

Smilacina purpurea

Crinum Herbertianum

Vishnupersaud del^t
Printed by Engelmann Graf Coindet & Co

WRIGHTIA MOLLISSIMA. Tab. 146.

Foliis ovatis, acuminatis, subtùs ramulisque cano-villosis; corymbis erectis; tubo corollæ calyce duplò longiore, pubescente; *folliculis* parallelis, calloso-multipunctatis, in fructum clavato-cylindricum cohærentibus.

Crescit in montibus valli magnæ Napaliæ proximis, florens et fructifera mense Junii; etiam in Kamaon. In sylvis regni Oude fructibus maturis lecta Februario et Martio. In Horto Calcuttensi floret Aprili, Majo, fructusque profert Junio.

Arbor habitu et staturâ *Wrightiæ tinctoriæ*. Rami subdichotomi, teretes, fuscescentes, punctis crebris, callosis conspersi; *juniores* glaucescentes, cano-villosi, uti omnes partes superiores lacte copioso scatentes. Folia brevè petiolata, patentia, opposita, interstitiis longiora, ovata, nunc oblongato-ovata, acumine gracili, lineari terminata, integerrima, basi rotundato-acutiuscula, 5-pollicaria, suprà pubescentia, subtùs villositate canâ, densâ, brevi, mollissimâ obsita, nervis numerosis, parallelis, obliquis, costâque prominentibus, venis transversis, reticulatis. Petiolus semiunguicularis, villosus, suprà plano-sulcatus, basi subarticulatus. Corymbus terminalis et e bifurcatione suprema ramulorum, subsessilis, lato-rotundatus, erectus, multiflorus, bìs tèrve trichotomus, foliorum par supremum vix superans, cano-villosus. Pedunculi cylindrici, obscurè complanati, carnosi; *communis* pollicaris vel infrà; *partiales* eâdem circitèr longitudine, ad divisuras *bracteis* instructi parvis, linearibus, acutis, villosis, oppositis; inferioribus majusculis, foliaceis, unguicularibus. Flores pollicares, carnosi, e flavo pallidè rubicundi, inodori, extùs pubescentes, *pedicello* unguiculari suffulti. Calyx ovatus, persistens et sub fructu parùm auctus; *laciniæ* ovatæ, obtusæ, ciliatæ, basi extùs subgibbosæ, intùs *squamis hypogynis* geminatis, carnosis, ovatis, planis, majusculis, tubi corollæ basi adpressis. Corollæ *tubus* amplus, cylindricus, calyce duplò longior, supra medium tumidus; *limbi* patentissimi, plani *laciniæ* cuneato-oblongæ, tubo ferè duplò longiores, obtusæ, parùm falcatæ et inæquilaterales. Corona 5-phylla, fauci intùs adfixa, brevis; *foliola* erecta, carnosa, aurantiaca, ovata, truncata, limbi laciniis opposita, 2- vel 3-fida, nunc ferè ad basin partita, ita ut corona 10- vel 15-phylla videatur. Antheræ subsessiles, sagittatæ, carnosæ, dorso puberulæ, conniventes in conum erectum, exsertum, coronâ paullò longiorem, mediò intùs *stigmati* oblongo, glutinoso adhærentes, deorsùm acutè bilobæ, utrinque per longitudinem totam polliniferæ. Ovarium ovatum, glabriusculum; *stylus* brevis. Folliculi 2, semicylindrici, 8—10-pollicares, acuti, penduli, glabri, punctis valdè copiosis, callosis, elevatis, albis notati, paralleli, primùm cohærentes, fructum oblongo-cylindricum, subclavatum, basi subangustatum, utrinque sulcatum, digitum ferè crassum formantes; dehiscentiâ levissimè divergentes, intùs plani, margine lato, membranaceo, incurvo. Semina numerosa, oblonga, complanata, semipollicaria, ferruginea, glabra, ad extremitatem umbilico obversam, id est superiorem respectu folliculi, levitèr porrectam coronata *comâ* amplâ, sericeâ, ipso semine duplò longiore. Embryo siccitate vel aquâ mollitus roseus (ut dudùm observavit illustrissimus generis conditor).

This tree unquestionably comes very near to *Wrightia tomentosa*, Roth., which I have found wild on the Irawaddi, among hills at Segain, opposite the city of Ava, and along the banks of the rivers in Martaban, and which also grows at Tavoy. Both seem to approach closely to *W. pubescens*, Brown. It appears to differ from the latter in having broader and more ovate leaves, longer tube of the corolla, and club-shaped follicles; these are much longer and slenderer, and nearly cylindrical in Roth's species.

Plate CXLVI. Fig. 1. Calyx, opened. 2. Corolla, opened. 3. Throat of the corolla, showing the corona staminea. 4. Follicles.

MICHELIA AURANTIACA. Tab. 147.

Foliis subovato-oblongis, attenuato-acuminatis, basi acutis, longiusculè petiolatis, subtùs puberulis; gemmis, alabastris, ramisque tenellis fulvo-villosis; petalis 20, exterioribus lato-lanceolatis, subunguiculatis, intima linearia duplò superantibus.

Habitat in regno Pegu, ad Rangoon, florens Septembri.

Arbor procera. Ramuli cylindrici, grisei, a lapsu stipularum alternatìm obliquè annulati; novelli cum stipulis, foliis teneribus, alabastrisque villositate fulvâ, splendente, densâ, adpressâ obsiti; desiccatione flavicantes. Folia approximata, sparsa, undique patentissima, oblonga, in acumen tenuissimum attenuata, basi acuta, vel subdilatata; nunc ovato-oblonga; 6-pollicaria ad spithamæa, imò longiora, coriacea, suprà lævia, lucida, subtùs ad costam nervosque puberula, ætate omninò glabra, siccitate venoso-reticulata; juniora utrinque sericeò et adpressè pubescentia. Petiolus gracilis, sesquipollicaris, pubescens, basi intumescens, suprà usque ad medium vestigio insertionis stipulæ plano, lineari notatus, cæterùm sulcatus. Stipulæ longæ, lineares, acuminatæ, fulvo-villosæ, in *gemmam* cylindricam convolutæ, citissimè caducæ. Flores magni, fragrantes, axillares, solitarii, saturatè aurantiaci; eorum *alabastra* oblonga, fulvo-villosa, *spathâ* duplici, caducissimâ involuta. Pedunculus columnaris, parcè velutinus, basi et medio cicatrice annulari notatus. Petala circitèr 20, lævia, crassa et carnosa; *exteriora* lato-lanceolata, ferè 2-pollicaria, acuta, basi parùm angustata, quasi unguiculata; *media series* hisce breviora, dimidiòque angustiora; *intima* angustissima, linearia, pollicem longa. Antheræ subsessiles, apiculatæ, dorso carnosæ. Torus ovariorum sericeus, supra antherarum acervum in conum brevem elevatus. Ovaria ovata, puberula. Stylus obtusus, recurvatus, supernè papillosus.

This tree seems to be different from any of those described and figured in Dr. Blume's superb work. It is certainly distinct from *M. Champaca* of Hindustan and from the species found in Nipal. Its flowers are larger than those of any of the other species with which I am acquainted, of a deep orange colour, and exquisitely fragrant. I have found a second species in the Burma country, on the banks of the Irawaddi, at Prome and Ava, also in Pegu and Martaban; it has also been sent to me from Tavoy. It resembles my *M. aurantiaca* in every respect except in the colour and size of the flower, which are like those of the common *M. Champaca;* perhaps it is only a variety of our tree.

Plate CXLVII. Fig. 1. Spathe, detached. 2. Flower, dissected. 3. Peduncle, with the torus and ovaries. 4. Stamens, detached. 5. Pistil, detached.

SAURAUJA FASCICULATA. Tab. 148.

Foliis oblongis, attenuato-acuminatis, argutè serrulatis, basi rotundatis, suprà glabris, subtùs transversè multicostatis, ramulis petiolisque furfuraceo-tomentosis et squamulosis, ferrugineis; pedunculis lateralibus, fasciculatis, filiformibus, lævibus, subtrifidis, trifloris.

Crescit in convalli Napaliæ parva, Noakote dicta, florens mense Junii.

Arbor mediocris 20-pedalis. Rami cylindrici, fusci, glabri, albo-punctati; *juniores* uti petioli obsiti tomento furfuraceo, copiosissimo, ferrugineo, squamulis intermixto patulis, subtridentato-truncatis, evanidis, in novellis imbricantibus. Folia ad extremitates ramorum approximata, sparsa, patentia, oblonga, attenuato-acuminata, serrulata, serraturis subincrassato-cuspidatis, basi rotundatâ integerrima, 6—12-pollicaria, coriacea, plana, suprà lætè viridia, transversè lineato-sulcata, glaberrima; subtùs tomento minutissimo, furfuraceo, pallidè ferrugineo, parcè squamuloso omninò obtecta, costâ valdè elevatâ, nervis suboppositis, parallelis, approximatis, filiformibus, conspicuis, ad marginem usque excurrentibus ibique reticulatìm confluentibus, venulis capillaceis inter nervos parallelè transversis. Petiolus crassus, suprà sulcatus, pollicaris 2-pollicarisve. Pedunculi infra apices ramorum foliosos laterales, ex vestigiis foliorum delapsorum provenientes, valdè copiosi, sæpè spatium rami 1—2-pedale, quin pluripedale occupantes, erecto-patentes, 3—4-fasciculati, graciles, teretes, læves, rubicundi, carnosi, 3 pollicares, integri vel bifidi, mediò et infra divisuras instructi *bracteolis* subulatis, acutis, patulis. Flores ex albo dilutissimè rosei, parùm odorati, terni, nunc subracemosi, longiusculè pedicellati, glabri. Calyx ovato-globosus, profundissimè 5-partitus, nudus; *laciniæ* ovatæ, obtusæ, concavæ, membranaceo-marginulatæ, parùm inæquales, imbricato-conniventes. Corolla calyce duplò major, subcampanulata, profundè 5-partita; *laciniæ* subrotundæ, minutìm crenulatæ, patentes. Stamina numerosa, basi corollæ brevissimè tubulosæ, extùs gibbosæ serie subduplici inserta, erecta, corollâ tertiò breviora, villis aliquot sericeis intermixta; *filamenta* linearia, alba, apice subclavata; *antheræ* pallidè lutescentes, erectæ, cuneatæ, apice subtruncato poris 2 magnis dehiscentes. Ovarium ovatum, carnosum, læve, 5-loculare, pluriovulatum; *ovula* inserta placentis 5 axilibus. Stylus crassus, carnosus, ferè ad basin 5-lobus; *lobi* subdivergentes, teretes, staminibus paullò breviores. Stigmata simplicia, obtusa.

This tree closely resembles my *Saurauja Punduana*, but is specifically distinct from it. When in flower it is extremely handsome, which is the case also with the following species:—

S. Punduana, foliis elliptico-oblongis, acuminatis, serratis, basi attenuatis, acutis, suprà lævibus, subtùs transversè multicostatis, ramulis petiolisque furfuraceo-tomentosis et squamulosis, ferrugineis; pedunculis lateralibus, fasciculatis, filiformibus, trifloris, lepidosis.

A native of the Pundua mountains bordering on the district of Sillet, whence specimens were sent to me by De Silva. It is very nearly allied to *S. fasciculata.*

S. Roxburghii, foliis oblongis, attenuato-acuminatis, serrulatis, glabris, deorsùm paullò angustatis, basi acutiusculis, subtùs obliquè nervosis; costâ levitèr lepidosâ, petiolis longiusculis, ramisque novellis parcè tomentosis, demùm glabris; pedunculis lateralibus, fasciculatis, trifidis, trifloris, tomentosis.—*Ternstrœmia serrata*, Roxb. Hort. Beng. p. 40. Ejusd. Mss. et Icon picta.

A native of Sillet, whence I received specimens from Francis De Silva. In Dr. Hamilton's herbarium are preserved specimens which were gathered at Siupur on the Morung hills, and at Birjura. It blossoms in April and May, and according to Roxburgh ripens its berries in July and August.

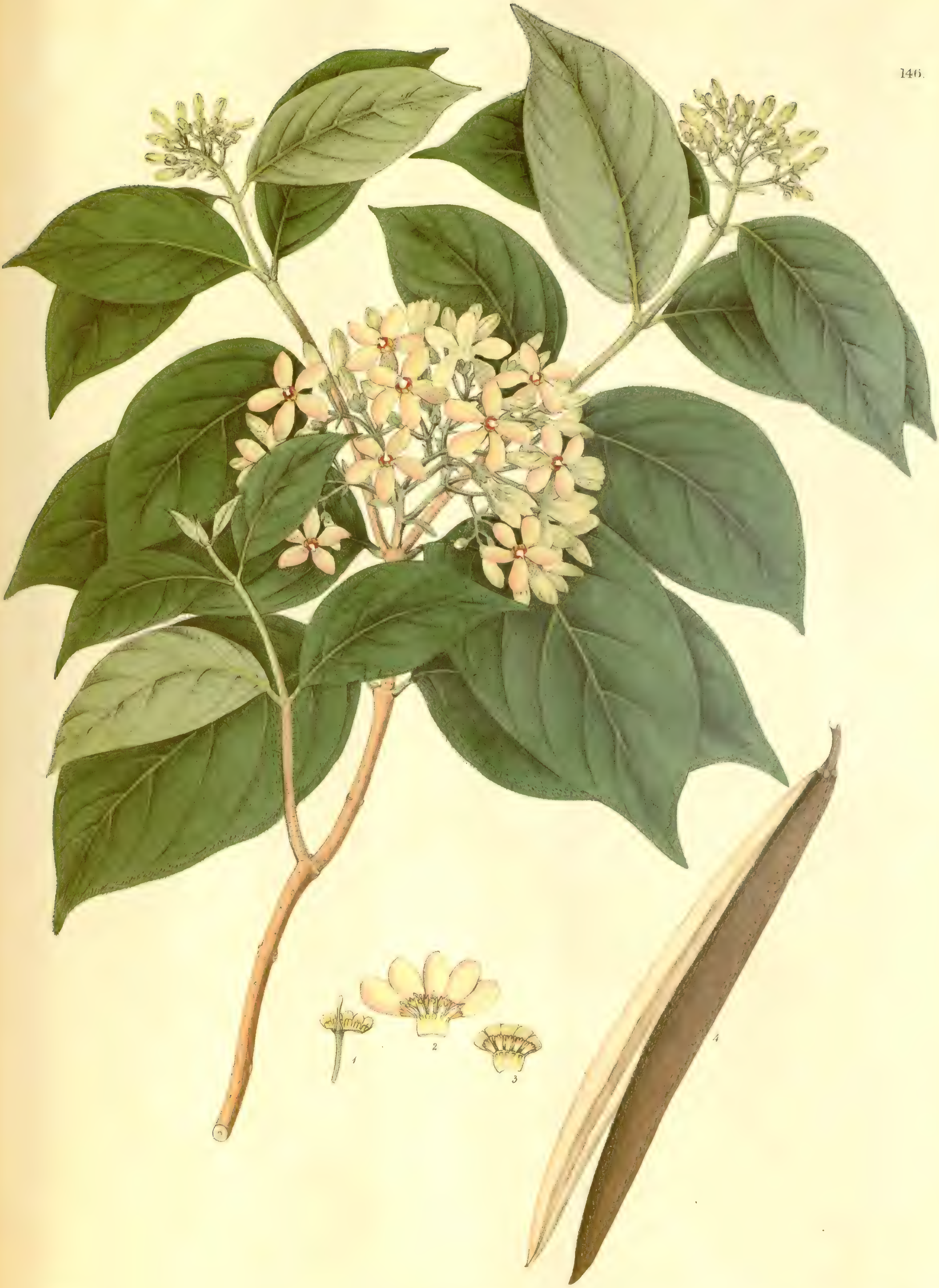
S. tristyla, DeCand.—*Ternstrœmia trilocularis*, Roxb. loc. cit.

Specimens were gathered on the island of Penang by Mr. Porter.

S. napalensis, DeCand.—*T. Gogana*, Hamilt.

I found this fine tree in very many parts of lower and upper Nipal, where it is called *Gokul.* It is in flower during the rainy season, and ripens its fruit in November. The natives eat the berries. Dr. Hamilton's collection contains specimens from Siupur only.

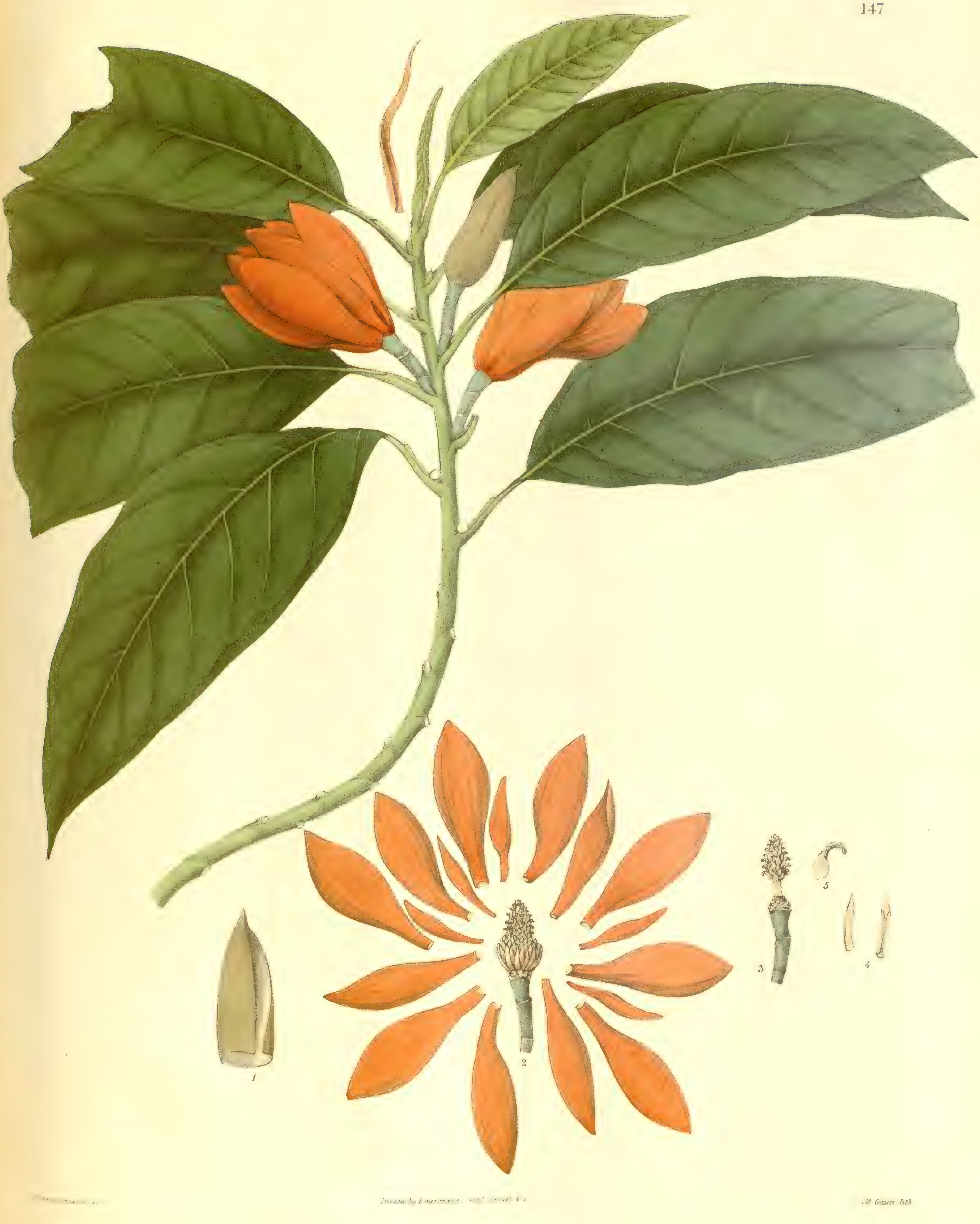
Plate CXLVIII. Fig. 1. Flower, detached. 2. 3. The same, dissected. 4. Stamens. 5. 6. Ovarium dissected.



Vishnupersaud del.ᵗ Printed by Engelmann, Graf, Coindet & Co M. Gauci lith

Wrightia mollissima

147



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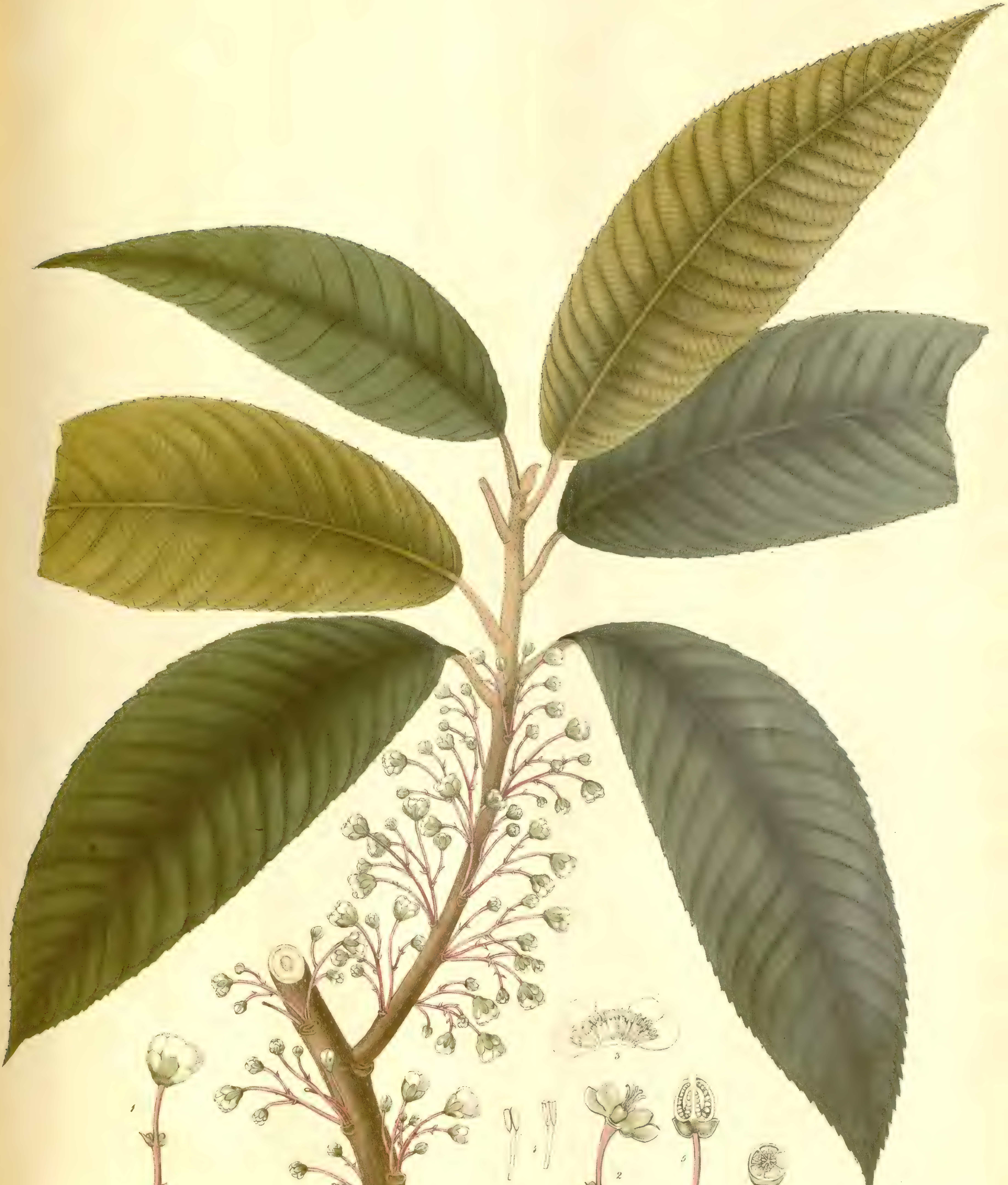
Michelia aurantiaca



Gorachand del^t

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Saurauja fasciculata

QUERCUS LAMELLOSA. Tab. 149.

Foliis ellipticis ovatisve, serratis, planis, glabris, acutis, longè petiolatis, basi obtusis, subtus glaucis, venis ad serraturas productis, venulisque elevatis; cupulis solitariis, sessilibus, depressis, tomentosis, squamis in lamellas continuas, circumductas, laxè imbricatas, undulatas confluentibus; glande tomentosâ, umbonatâ, depressâ, cupulâ breviore.—*Lindl. MSS.*

Quercus lamellosa, Hamilt. apud Smith in Cyclopædia Reesiana, in loco.

Nomen Newarrense, *Shulshee:* Parbutteum *Pharat-Singhali.*

Incolit montes Napaliæ, fructifera fine anni.

This noble Oak has been so well described by Sir J. E. Smith in Rees's Cyclopædia, that I have very little to add in this place. The young branches are thick, cylindric, and glaucous. Buds terminal, fascicled, or axillary and solitary, ovate, obtuse, with many rounded, villous and silky scales. Leaves very handsome, of a firm and leathery texture, sometimes a foot long, and as much as five inches broad, smooth and glossy above, more or less mealy, sometimes nearly white underneath. The fruit is remarkably large, as much as two inches in diameter.

The drawings from whence the engravings of this and the following species have been taken, were made by Mons. M. Gauci, whose extremely courteous and able services connected with the graphic part of this work I acknowledge with very great pleasure.

Plate CXLIX. Fig. 1. Cup of the acorn, divided vertically. 2. Acorn.

QUERCUS VELUTINA. Tab. 150.

Foliis ovato-lanceolatis, serratis, glabris, nitidis, utrinque concoloribus, basi cuneatâ integerrimis, petiolatis, venis intra marginem subevanescentibus, venulis inconspicuis; cupulis solitariis, brevè pedunculatis, depresso-turbinatis, velutinis, squamis in lamellas continuas, circumductas, arctè imbricatas confluentibus; glande velutinâ, hexastylâ, depressâ, umbonatâ, cupulâ paullò longiore; ramis pustulatis.—*Lindl. MSS.*

Crescit in Tavoy oræ Tenasserim, fructifera Octobre;—Gulielmus Gomez, plantarum collector.

Rami graciles, cylindrici, punctis innumeris callosis densè notati, fusci, nitidi, glabri. Gemmæ parvulæ, subglobulares, parùm villosæ. Folia versus apicem ramulorum approximata, undique patentia, lanceolata, acuminata, serrata, serraturis subobtusis, gibbosulis, remotiusculis, dimidiâ vel tertiâ inferiore parte integerrima, basi attenuato-acuta, 4-pollicaria, chartacea, lævia, lucida, plana, costâ subtùs elevatâ, gracili, nervis obliquis, suboppositis, parallelis, filiformibus. Petiolus semipollicaris, suprà sulcatus, basi levitèr intumescens. Inflorescentia haud visa. Fructus axillaris, solitarius, ferè sessilis. Cupula depresso-hemisphærica, diametrum 8-linearem emetiens, pallidè ferruginea, mollissimè tomentosa et velutina, *annulis* constans 4 vel 5 concentricis, minutìm crenulatis, convexiusculis; ad faucem contracta, incurva et parùm tumida. Glans orbiculato-depressa, basi latâ inserta, densè villosa, subvelutina, coronata umbilico crasso, subconico, parùm extra ostium prominente, rudimentis stylorum 6 terminato.

Plate CL. Fig. 1. Cup of the acorn. 2. Acorn.

PLATYSTEMMA.

Calyx ovatus, 5-fidus, æqualis. Corolla rotata, planissima, tubo nullo, limbo bilabiato, 5-lobo: labio inferiore majore, 3-lobo, basi contracto. Stamina 4, brevissima, æqualia; antheræ magnæ, reniformes, 1-loculares. Stylus longissimus, crassus. Stigma capitatum, integrum. Fructus . . .

Classis Linneana: *Didynamia Angiospermia.*

Ordo naturalis: *Scrophularineæ*, R. Brown.

Herba pusilla, rupestris, erecta, pilosula, monophylla, vel diphylla, floribus paucis, magnis, azureis, terminalibus, longè pedunculatis, geminatis vel subumbellatis, corollâ planissimâ (unde nomen), labio inferiore magno.

PLATYSTEMMA VIOLOIDES. Tab. 151.

Crescit inter muscos super rupibus montium Napaliæ superioris, florens mense Augusti.

Plantula elegans, annua, pollices 2 ad 6 alta, carnosa, pilis obsita patentibus, mollissimis, longiusculis, fulgentibus, hyalinis, pulcherrimè moniliformibus, articulis decrescentibus, extimo subulato. Radix constans fibrillis densè fasciculatis, capillaceis. Caulis tenerrimus, ferè filiformis, 1½—3-pollicaris, teres, pilosus, erectus vel obliquè adscendens, apice 1- vel 2-phyllus, cæterùm nudus. Folium ad apicem caulis sessile, patens, planum, orbiculato-cordatum, obtusum, 2-pollicare, aliquandò ovato- vel obovato-cordatum, extrorsùm remotè sinuato-dentatum, ciliatum, basis integerrimæ sinu brevi, angusto, lobis rotundatis, conniventi-amplexicaulibus; suprà atroviride, opacum, pilis copiosis, erectis conspersum, subtùs argenteo-pallidum, obscurè venulosum, 7—9-nervium, nervis gracilibus, prominentibus, pilosulis, versus marginem reticulato-ramosis, prætereà uno alterove e nervo medio vel costa obliquè proveniente; nunc 2 adsunt folia approximatissima, opposita, quorum alterum multò minus. Pedunculus terminalis, e gremio folii quasi ortus, (caulis continuatus) solitarius vel geminatus, gracillimus, filiformis, nudus, erectus, pilosulus, 1- 2- vel 3-florus. Flos ratione plantæ sat magnus, cernuus, inodorus, lævis, amœnissimè azureus, centro minutìm viridi-radiatus, subtùs albicans, *pedicello* longo, capillaceo, suffultus. Bracteolæ 2 infra pedicellos subulatæ, acutæ, patulæ. Calyx ovatus, 5-dentatus, carnosus, vix ultra lineam longus; *dentes* lanceolati, acuti, patuli. Corolla planissima, rotata, absque ullo ferè tubo, pollicaris, bilabiata, circumscriptione ovata; *labium superius* subquadratum, 2-lobum, lobis ovatis, obtusis, levitèr divergentibus; *inferius* obovatum, altero duplò majus, 3-lobum, lobis ovatis, obtusis, parùm divergentibus, intermedio vix minore, basi cuneato-angustatum; *faux* staminifera, supernè inscripta lineolis 7 viridibus, radiatìm per basin labii superioris divergentibus. Stamina 5, brevissima, glabra, ostio corollæ vix tubuloso intùs adfixa; *fertilium filamenta* æqualia, crassiuscula, subulata, parallela, per paria conniventia, basi parùm torta; *antheræ* magnæ, reniformes, conniventes, supernè rimâ transversâ dehiscentes, 1-loculares; *stamen* quintum vel *sterile*, subulatum, castratum, infra sinum labii superioris, inter filamenta superiora insertum, hisce parùm brevius, apice acutiusculo levitèr recurvatum. Ovarium rotundato-ovatum, læve, 2-loculare, polysporum; *ovula* placentæ axili, jugiformi densè inserta. Stylus valdè longus, labium inferius æquans, supra hoc descendens, carnosus, teres, apice parùm incrassatus. Stigma parvum, capitatum, minutìm papillosum, indivisum. Fructus haud visus.

This elegant little plant forms unquestionably a new genus, very unlike any of the others belonging to the family of *Scrophularineæ*. The flowers are remarkably large for the size of the plant, and of a dark sky-blue colour; the corolla is perfectly flat. I have a second species from Kamaon, which was sent to me by Robert Blinkworth, and which may be called *P. majus*. It differs in having a longer stem, an ovate-cordate, acute, sharply sinuato-dentate leaf, and the common peduncles umbellato-bifid, each division bearing two long-pedicelled flowers, besides one or two pedicels from the bifurcation. This may perhaps be only a large variety of the Nipal plant; but as my specimens are not very good I am unable to determine this point.

Plate CLI. Fig. 1. Corolla enlarged, viewed from below. 2. The same opened, viewed from above. 3. Calyx, opened. 5. 6. Stamens. 7. Ovarium, opened.

LOBELIA ROSEA. Tab. 152.

Lobelia rosea, Wall. in Roxb. Flor. Ind. 2. p. 115.

Lobelia Dudia, Herb. et MSS. Hamilt.

Habitat in convalli parva Noakote dicta Napaliæ, florens Martio. "In Mithilæ et Napaliæ inferioris ripis torrentium umbrosis, ubi vocatur *Dudhiya* (lac præbens)"; Hamilt. Mss. Montes prope Sillet, Francis De Silva.

Having given an account of this very elegant plant in the Flora Indica, I shall confine myself here to the following short view of the other Indian species of *Lobelia* with which I am acquainted:—

2. *L. pyramidalis*, Wall. in Act. Soc. Asiat. 13. p. 376.

Incolit plurima Napaliæ loca, florens fructiferaque per totum ferè annum.

3. *L. excelsa*, Lesch. ex Wall. in Roxb. Flor. Ind. 2. p. 114. Erecta, cano-villosa, mollissima; foliis oblongo-lanceolatis, utrinque attenuato-acutis, minutissimè denticulatis, brevè petiolatis; racemo terminali, maximo, e floribus, bracteisque foliaceis, densissimis composito, villoso, laciniis calycinis elongatis, tubum corollæ superantibus.

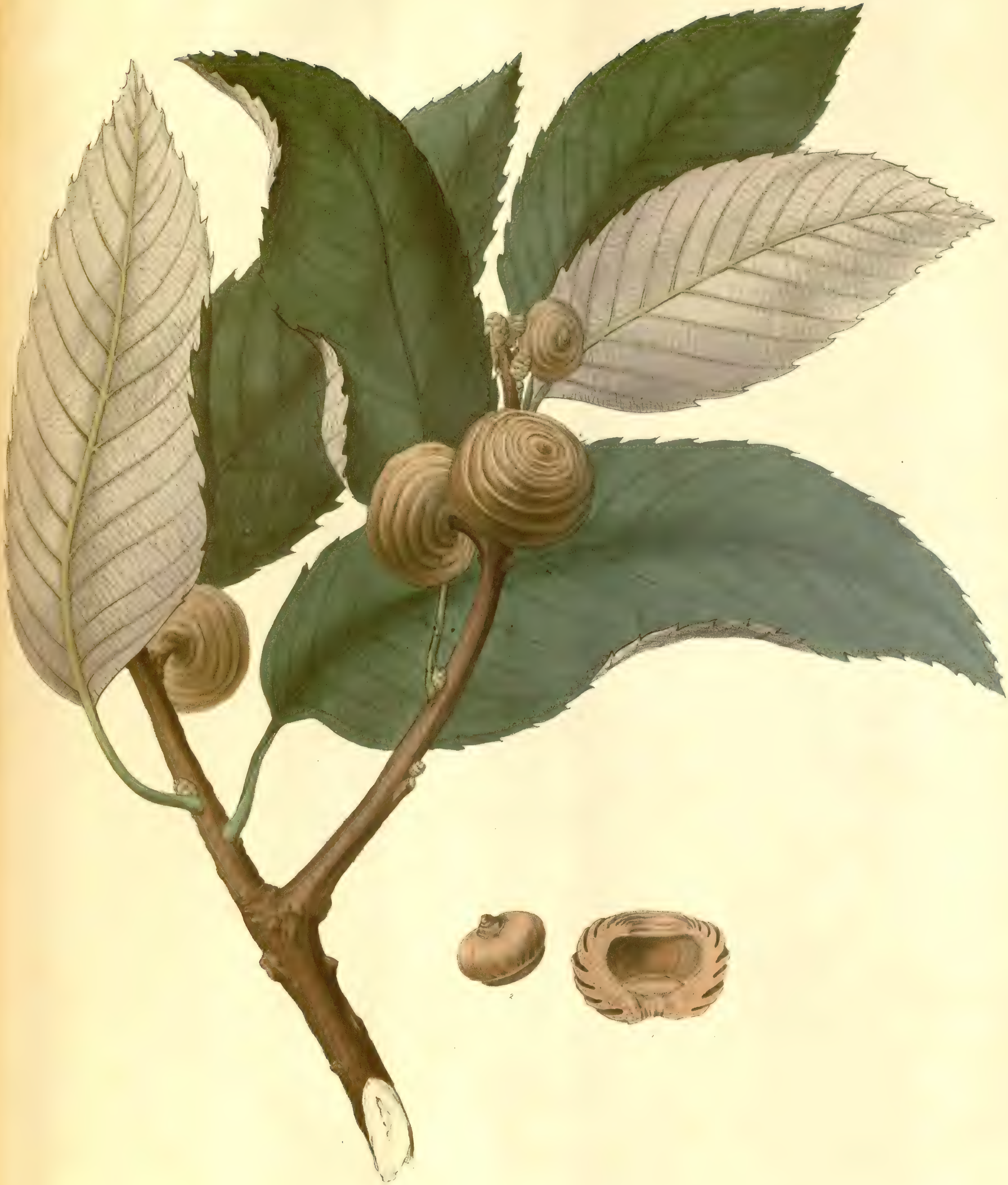
In montibus Nilghiry dictis detexit b. Leschenault de la Tour.

Since the publication of my account of this truly splendid plant I have been favoured with a very fine specimen in full flower, which was gathered in the Nilghiry by Mr. Noton, and which has enabled me to give the above somewhat improved specific character.

4. *L. nicotianifolia*, Heyn. ex Roth. et Roxb.

Habitat prope Bangalore, Heyne, teste Roxburghio. Montes Courtallum, Wight; Heyne in Herb. Madraspatano.

5. *L. colorata*, erecta, glabra, subramosa, caule tereti, purpurascente; foliis linearibus, sessilibus, denticulatis;



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Quercus lamellosa

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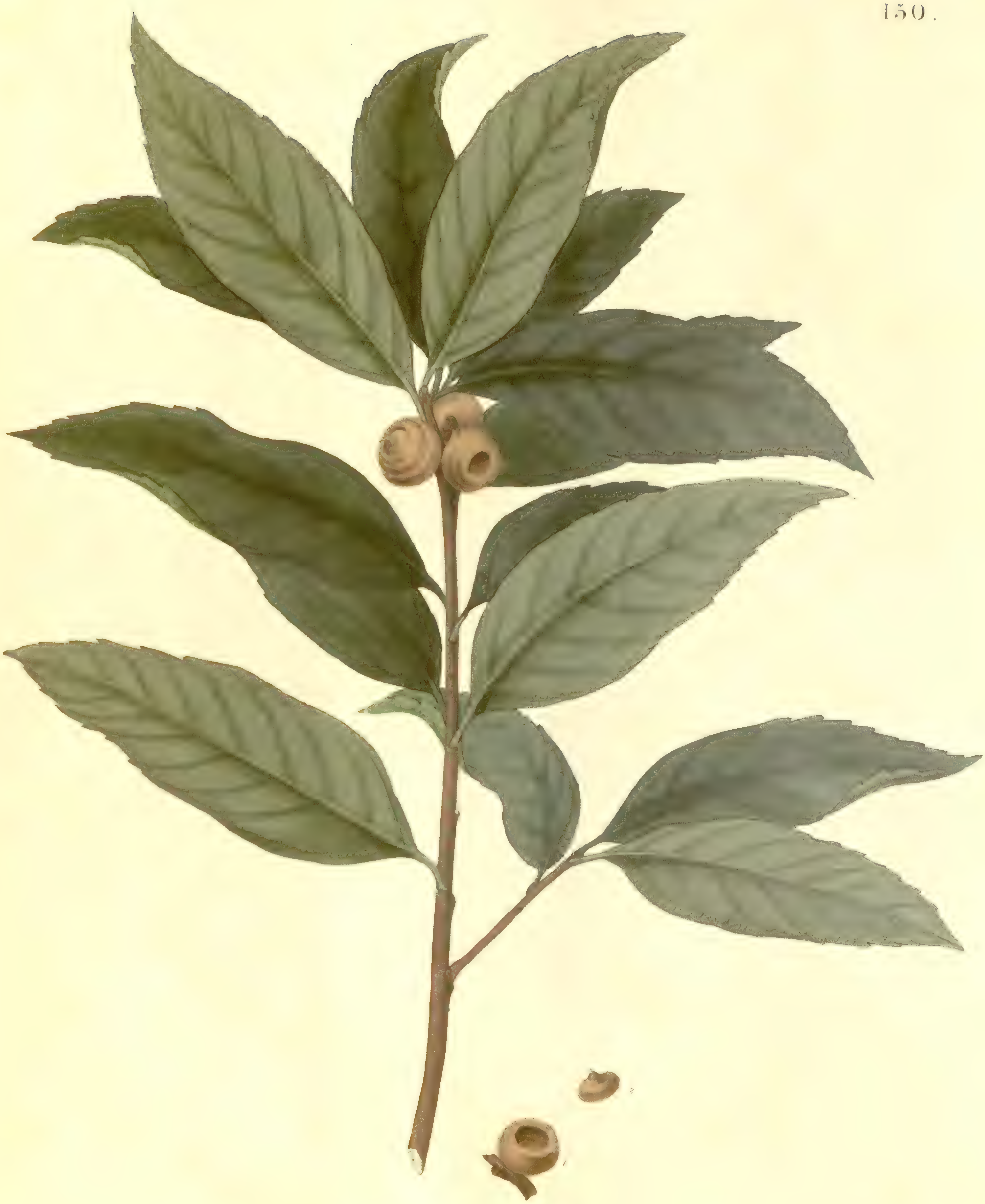

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M Gauci lith

Quercus velutina.

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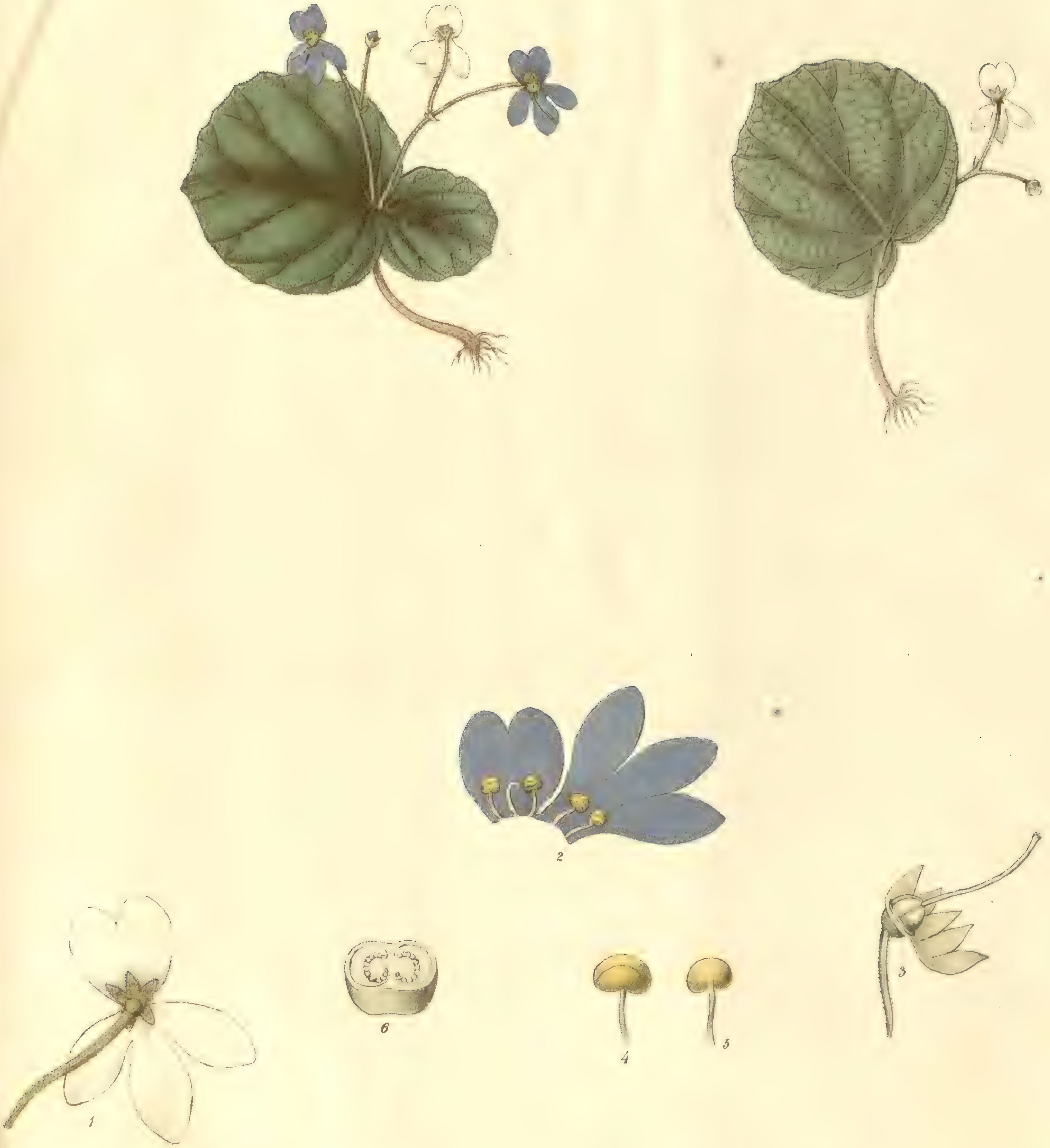

Gorachand del.^t
M. Gauci lith.

Platystemma violoides.

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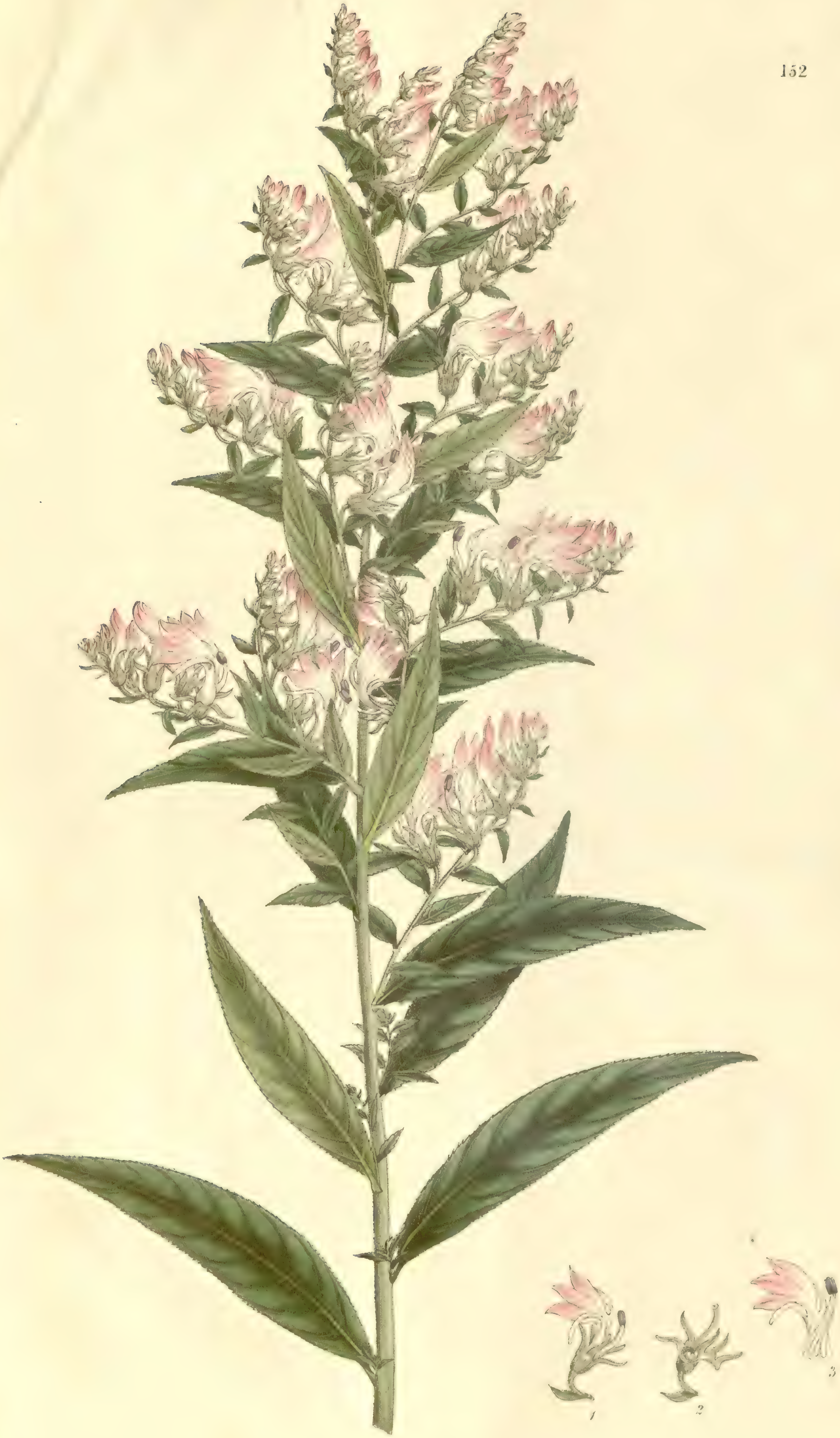

Gorachand del.^t Printed by Engelmann Graf Coindet & Co. M. Gauci lith

Lobelia rosea.

floribus racemosis, terminalibus, calycibus pubescentibus, angulatis, laciniis lanceolatis, tubum vix æquantibus, apice hispidulis, bracteisque glanduloso-dentatis.—*L. purpurascens*, Wall. Catal. Herb. Num. 1307; haud Brown.

Habitat in montibus Sillet confinibus, florens Augusto—Octobre; F. De Silva et Henricus Bruce.

6. *L. begonifolia*, Wall. in Act. Soc. Asiat. 13. p. 377.

Crescit ad loca humida, umbrosa Napaliæ, florens et fructifera toto ferè anno.

7. *L. radicans*, Thunb.?

Indigena in China, fide Roxburghio.

8. *L. zeylanica*, Linn. *L. Goalparæ*, Hamilt. MSS. et Herb.

Habitat in Sillet, florens sub pluviis; in Goalpara, Hamilt.

The account of this species, as well as the four that follow it, in Roxburgh's Flora Indica, was furnished by me. Linneus's description agrees well with the plant.

9. *L. stipularis*, Roth. *L. decurrens*, Ejusd. *L. trigona*, Roxb. *L. Heyneana*, Spreng.

Habitat ad loca humida Zeylonæ, Malabariæ, et Coromandeliæ, Herb. Madr. Heynean. et Wightian.; in Bengala, Herb. Roxb.; Nathpur, Herb. Hamilt.; Kamaon, R. Blinkworth; in montibus Napaliæ legi 1821, ad Prome, et Taong Dong prope Avam, 1826.

I believe it will be found that the synonyms I have quoted above belong to one and the same species, for which I have retained the name first given to it together with a description by the veteran and excellent botanist Mr. Roth, notwithstanding that it appears founded on a misconception (consult Roxburgh's Flora Indica, vol. 2. p. 111.). The specimens received from Kamaon, those I gathered on Taong Dong, and some of those which I found in Nipal, belong to a marked variety, perhaps a distinct species.

Plate CLII. Fig. 1. Flower. 2. 3. The same, opened.

LINARIA RAMOSISSIMA. Tab. 153.

Herbacea, prostrata, ramosissima; foliis inferioribus ovato-cordatis, lobatis, subhastatis, superioribus lineari-sagittatis; pedunculis axillaribus, solitariis, folio brevioribus, corollæ puberulæ calcare recto, brevi; laciniis calycinis angustissimis, capsulâque breviore pilosulis.

Antirrhinum diffusum, Herb. Heyn. *A. Cymbalaria*, Herb. Hamilt.

Habitat in ruderatis et petrosis Hindustaniæ et Burmæ, florens sub pluviis; prope Mirzapur ad ripam Gangis, 1820; ad Paghamew, Yenangheun et Avam ripæ Irawaddi, 1826; in Coromandelia? Herb. Heyn.; ad Patnam, Herb. Hamilt.

Planta annua, laxè prostrata, ramosissima. Radix fibrosa, sublignosa. Caules plures, undique extensi, graciles, basi pennam columbinam crassi, sæpiùs multò graciliores, pedales, 2—3-pedalesve, glabri, nunc pilis paucis, patentibus conspersi. Rami alterni, simplices. Folia alterna, patentia, subapproximata, *inferiora* ovato- vel hastato-cordata, inæqualitèr, plùs minùs profundè 5-loba, acuta, $1\frac{1}{2}$—2-pollicaria; *superiora* $1\frac{1}{2}$-pollicaria, lineari-sagittata, ferè integerrima, lobis basis parùm contractæ angustis, subdivergentibus, acutis; *summa* valdè parva, linearia, nunc basi integra; omnia glabra, 5-nervia. Petioli graciles, variè curvi, glabri vel parcissimè pubescentes; *inferiores* folia longitudine æquantes; *superiores* ferè capillacei, iisdem breviores. Flores ex omnibus ferè axillis solitarii, parvi, glabri, flavi, nutantes, suffulti *pedunculis* subcapillaceis, glaberrimis, foliis paullò breviores, supremi iisdem longiores. Calycis *laciniæ* lineares, pilis capitellatis conspersæ, corollâ dimidiò breviores. Corolla oblonga, parùm pubescens, *calcare* brevi, attenuato-conico, recto; *laciniis* obtusis; *palato* pallido, bigibboso. Capsula globosa, calyce parùm minor, vertice stylo coronatâ, pubescens.

My friend Mr. Bentham, who has undertaken the elaboration of the family to which this plant belongs, informs me that it approaches very nearly to *Linaria cirrhosa*, Willd., which I have verified by consulting the specimens in his herbarium. It appears to me, however, that ours is a much larger plant, with the lower leaves much broader and hastate; its calyx and capsule are beset with upright, gland-capitate hairs.

I subjoin descriptions of two other plants, belonging to this and to a nearly allied genus.

2. *Linaria incana*, densè cano-villosa, caulibus prostratis, basi sublignosis; foliis ovato-lanceolatis, acutiusculis, basi subretusis, utrinque villosis, petiolatis; pedunculis axillaribus, foliis longioribus, corollâ extùs pilosulâ.

Habitat in campis ruderatisque convallis Napaliæ, florens fructiferaque mensibus Martii et Aprilis.

Suffruticosa, prostrata, omnibus partibus densè obsita pilis canis, brevibus, mollissimis. Radix lignosa, ramosa. Caules plures, graciles, teretes, subfiliformes, prostrati, cano-villosi, pedales, simplicitèr ramosi. Folia alterna, bifariè patentia, ovato-lanceolata, acutiuscula, integerrima, basi rotundata vel levitèr retusa, semipollicaria, vel pollicaria, *petiolis* duplò longiora, cumque iis utrinque densè cano-villosa, ciliata. Flores valdè parvi, lutei, axillares, solitarii. Pedunculi ferè capillacei, folio sæpiùs longiores, fructiferi glabri. Calycis *laciniæ* lanceolatæ, membranaceo-marginulatæ, ciliatæ. Corolla extùs pubescens, intùs purpureo-punctata, calyce duplò major, *calcare* antrorsùm curvato, subulato, tubo corollæ ½ breviore, obtuso; *labium superius* adscendens, bilobum, obtusum, pallidè fuscum; *inferius* majus, obtusè 3-lobum, *palato* purpureo-guttato, cruciatìm sulcato tuberculisque 4 notato. Filamenta basi pilosula, ferè æqualia. Antheræ per pares connexæ. Stamen *sterile* capillaceum. Ovarium ovatum, puberulum, obscurè papillosum. Stylus pubescens, teres. Stigma convexum. Capsula ovata, stylo coronata, calycem persistentem subæquans, scabra, a vertice ad medium *valvis* 2 oblongis, oppositis dehiscens.

Antirrhinum gibbosum, caule erecto, paniculato, capitellato-piloso; foliis linearibus, carnosis, subsessilibus, inferioribus oppositis; floribus axillaribus, racemosis, villosis, calyce corollâ brevissimè calcaratâ breviore.

Legi prope Assufghur in provincia Rohilcund, florens et fructiferum mense Aprilis 1825. In Bangalore, Herb. Madraspatan. nomine *A. Orontii.*

Planta erecta, paniculata, pedalis vel 2-pedalis, basi sublignosa, pilis frequentibus, capitellatis obsita, præsertìm supernè et dum junior; adulta glabra. Radix ramosa. Caulis obsoletè tetragonus, calamum scriptorium ferè crassus. Rami integri, subdecussantes, inferiores oppositi, superiores alterni. Folia angusto-linearia, carnosa, utrinque acuta, interstitiis parùm longiora, 1—1½-pollicaria, ciliata, cæterùm glabra, *petiolo* villosulo, brevi suffulta; *inferiora* opposita; *superiora* sive *floralia* dimidiò breviora, alterna, subsessilia, parùm recurva. Flores parvi, lutei, axillares, solitarii foliorum superiorum, iisdemque breviores, *racemum* terminalem ramorum 3-pollicarem formantes, fructiferum duplò longiorem. Pedunculi breves, capitellato-pilosi. Calyx corollâ longior; *laciniæ* lineares, pilosæ, subinæquales. Corollæ *calcar* brevissimum, obtusum, compressiusculum, inter lobos calycis posticos, breviores porrectum; *tubus* purpureo-punctatus; *labium superius* reflexum, trifidum, posticè concavum et villosum, lobis rhomboideis, 2-dentatis; *inferius* subæquans, bifidum, *lobis* rotundatis, obtusis, conniventibus, *sinu* angustissimo; *palatum* prominentèr 2-gibbosum. Stamina salvâ basi filamentorum lævia. Ovarium et Stylus hirsuta. Capsula ferè unguem emetiens, oblongo-ovata, glanduloso-pilosa, basi valdè obliqua deorsùmque gibbosa, fauce contractâ, parùm incurvâ anticè poris tribus, obtusè 3-angularibus dehiscens.

Plate CLIII. Fig. 1. Flower, enlarged. 2. Calyx. 3. Corolla. 4. Corolla, opened. 5. Stamen, detached.

PEDICULARIS carnosa. Tab. 154.

Caule erecto, ramoso, villoso; foliis oblongis, multilobatis, inferioribus oppositis, lobis obtusè crenatis; floribus racemosis; calyce compresso, subcristato; corollæ labio superiore piloso, gibboso, rostrato-acuminato, inferiore subrotundo.

Crescit in monte Sheopur Napaliæ, florens Augusto.

Radix constans fibris ramosis, longiusculis, teretibus, carnosis, ad extremitates subtuberoso-dilatatis. Caulis adscendens, carnosus, cylindricus, basi pennam columbinam crassus, palmaris, pedalis, 2-pedalisque, villis canis, brevibus obsitus. Rami pauci, alterni, graciles, nunc basi nudi. Folia patenti-erecta, approximata, carnosa, oblonga, obtusa, parallelè multilobata, lobis rotundato-ovatis, æqualibus, obtusè crenato-dentatis, ciliatis, subdecurvatis; basi acuta, utrinque pilis hyalinis conspersa, suprà atroviridia, convexiuscula, subtùs costâ nervisque grossè reticulatis prominentibus; *inferiora* subopposita, 2-pollicaria; *superiora* alternantia, sensìm minora; *floralia* subsessilia. Petioli carnosi, villosi, plano-sulcati, ½-pollicares. Flores majusculi, rosei, foliorum floralium axillares, eorumque longitudinem subæquantes, solitarii, brevè pedunculati, dispositi in racemum terminalem ramorum caulisque, oblongum, 3—6-pollicarem. Calyx subcarnosus, oblongus, compressus, villosulus, parùm nervosus, fauce obliquâ cristatulâ, subtùs fissâ 5-lobus; *lobi* brevissimi, crenulati. Corollæ *tubus* albus, compressus, utrinque sulcatus, glaber, calycem æquans; *labium superius* saturatiùs tinctum, villosum, compressum, desinens in rostrum rectè descendens, attenuato-acuminatum, labio inferiore vix brevius; *labium inferius* patens, subrotundum, 3-lobum, lobis rotundatis, suprà parùm convexum et versus faucem notatum tuberculis 2 parallelis, albis. Stylus glaber, sursùm incurvus, rubicundus, apice exsertus. Stigma minutum, globosum.

I have found this handsome species only on Mount Sheopur in Nipal, towards its summit, where it blossoms in the rainy season about August. The flowers are extremely elegant, of a bright rose-colour, with a white tube; the point of the upper lip crimson, almost purple. The leaves are lobed in a very remarkable manner along the margins, each lobe is rounded and obtusely crenate. I am acquainted with thirteen other species of *Pedicularis*, natives of India, the publication of which has been confided to the able hands of M. Duvau of Paris.

Plate CLIV. Fig. 1. Flower. 2. 3. Calyx and corolla, opened.

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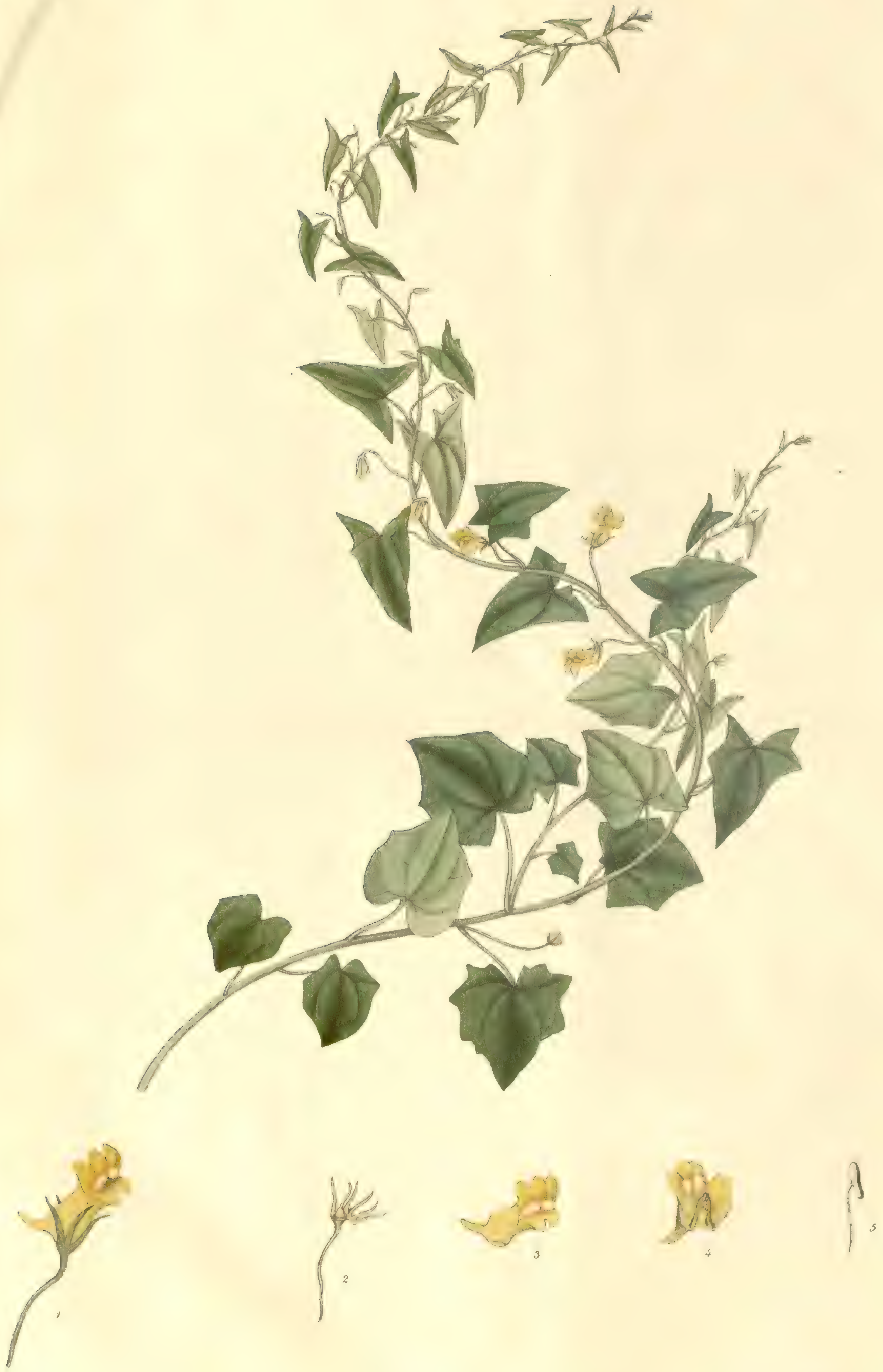

Vishnupersaud del^t

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M. Gauci lith

Linaria ramosissima

Pedicularis carnosa

Gorachand del^t

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M. Gauci lith

CONVOLVULUS BARBATUS. Tab. 155.

Fruticosus, volubilis, piloso-barbatus; foliis ovato-oblongis, acutis, integerrimis, basi rotundatis, subtùs sericeò et adpressè lanuginosis, brevè petiolatis; floribus axillaribus, involucratis bracteis longissimis, linearibus, canaliculatis, sub singulo calyce ternato-secundis; corollæ campanulatæ limbo brevi, levitèr 5-lobo.

Inveni ad Rangoon in Pegu; ad Donabew, alibique secus ripam Irawaddi, florens Septembre.

Frutex magnus, volubilis, omnibus partibus obsitus pilis longis, mollibus, patentibus, pallidè ferrugineis, subsericeis. Rami longi, graciles, cylindrici, valdè pilosi. Folia alterna, patentia, interstitiis sæpè longiora, ovato-oblonga, attenuato-acuta, integerrima, basi rotundata, nunc subretusa, 5—6-pollicaria; inferiora distantia, spithamæa, nunc pedalia; membranacea, suprà atroviridia, levitèr plicata, obliquè lineato-sulcata, pilis longissimis, decumbentibus remotè conspersa et propter eorum bases subvesiculosas asperula, subtùs elevato-nervoso-venosa, tomento adpresso, sericeo, densissimo vestita; *novella* cum ramulis densissimè lanuginosa; *adulta* glabriora. Petiolus pilosus, canaliculatus, curvus, ½-pollicaris. Stipulæ nullæ. Flores magni, sesquipollicares, dilutè flavi, axillares, 7—9-fasciculati, folio triplò breviores, *involucro* magno, polyphyllo suffulti, centrales sessiles. Pedunculi breves, carnosi, pilosi; *communis* crassus, semiunguicularis. Involucrum constans *foliolis* carnosis, setaceo-linearibus, patenti-incurvis, apice levitèr convergentibus, suprà sulcatis, glabris, subtùs convexis margineque pilis longissimis, patentibus barbatis, 1—1½-pollicaribus, corollâ vix brevioribus; 3, nunc modò 2 vel 1, infra basin singuli calycis vel ejusdem pedicelli unilateraliter insertis. Calyx parvus, glaberrimus, ovato-oblongus, brevissimè pedicellatus vel sessilis; *lobi* oblongi, membranaceo-marginati, imbricantes. Corolla campanulata, lævis; *tubus* 1—1½-pollicaris, basi brevissimâ et contractâ calyce obtectus, intùs erubescens, transversè rugosus; *limbus* patens, tubo triplò brevior, obscurè 5-lobus, *lobis* retusis. Stamina inclusa, æqualia; filamenta basi parùm pilosula; *antheræ* lineares. Ovarium læve, *disco* flavicante, subquinquelobo cinctum; *stylus* filiformis; *stigma* bilobum, lobis globosis, papillosis.

This is a very large and distinct species. All the green parts are bearded with remarkably long and dense hairs; the underside of the leaves is very hoary, silvery, and soft. The flowers are large, and of a pale yellow colour, with a tinge of pink within; they are collected in short, peduncled, axillary, solitary fascicles, surrounded by a number of narrow, very long, curved, fleshy, green bracts, which are thickly beset on the outside and margins with very long spreading hairs; two or three of these bracts issue sideways below each calyx or pedicel, forming collectively a large and wide involucre, the points of which converge slightly over the flowers.

Plate CLV. 1. Fascicle of flowers, surrounded by its involucre of bracts. 2. A detached flower, with its three bracts. 3. Bracts, separated. 4. One of the bracts cut off, to show its channelled structure. 5. Calyx, opened. 6. Corolla, opened. 7. Stamens.

POTHOS GLAUCUS. Tab. 156.

Scandens, valdè glaucus; foliis ovato-cordatis, petiolos nudos æquantibus, profundè pinnatis, pinnis oblongis, falcatis, caudato-acuminatis; staminibus sex, ovario hexagono adpressis.

Radicat supra arboribus in Napalia, tam inferiore quam superiore, florens versus finem pluviarum, mense Octobris.

Frutex magnus, ramosus, longè latèque super truncos arborum saxaque firmiter radicans, lævis, glaucus. Caudex digitum ad 2 crassus, cylindricus, e latere interiore exserens *fibras radicales* teretes, carnosas, villosulas. Rami graciles, elongati, nutantes. Folia approximata, patentia, alterna, pedalia, ovato-cordata, acuta, profundè pinnatifida, coriacea, suprà atroviridia, nitida, subtùs valdè glauca, costâ crassâ et elevatâ; *lobi* utrinque 2—6, oblongi, apice falcato hinc acuminati et subcaudati, indè gibbosi, 3—6-pollicares, uncias 1—3 lati, marginibus rectilineis paralleli sinubusque angustis distincti; multinervii, nervis gracilibus, mediis crassioribus, venis aliquot transversè reticulatis, capillaceis; infimi inæquilaterales, deorsùm valdè obliqui, exteriores plùs minùsve confluentes. Petiolus cylindricus, rectus, limbum folii longitudine æquans, suprà sulcatus, basi dilatatâ caudicem ramumve semiamplectens, apice pollicari cylindraceo-intumescens. Inflorescentia axillaris, solitaria, folio brevior, suffulta *pedunculo* crasso, cylindrico, glauco, petiolum subæquante, apice incrassato incurvo, ad medium arctè involuto *bracteâ* membranaceâ, lævi, fuscâ, deciduâ. Spatha ovata, cucullato-concava, acuta, coriacea et crassa, flava, valdè glauca, 5-pollicaris, spadice tertiâ parte longior, demùm ferè plano-expansa, decidua. Spadix cylindricus, obtusus, rectus, digitum minimum crassus, pollices 2—3 longus, omninò obtectus partibus fructificationis arctissimè imbricatis, spiralitèr tessellatis. Ovaria cuneata, hexagona, truncata, vertice notata *stigmate* brevi, mucoso, fusco, sessili, lineari, transverso, 1-locularia; *ovula* aliquot ad fundum loculi inserta. Stamina plerumque 6, lateribus ovarii adpressè parallela, iisdem demùm parùm longiora; *filamenta* clavata, plana, fusca; *antheræ* apicem subtruncatum filamenti terminantes, bilobæ.

This is a large rooting climber, which covers the trunks of trees and rocks to a considerable extent. It is closely allied to Roxburgh's *Pothos decursivus*, but may be readily distinguished by its glaucous appearance.

Plate CLVI. Fig. 1. Part of the spadix. 2. 3. Pistil detached, with 6 stamens belonging thereto. 4. Detached stamen. 5. 6. Ovarium, opened.

DESMODIUM SEQUAX. Tab. 157.

Fruticosum, erectum, virgato-ramosum; ramis teretibus petiolisque villosis; foliis 3-foliolatis, breviusculè petiolatis, foliolis lanceolatis, acuminatis, suprà adpressè pilosis, subtùs villosis, intermedio duplò majore; stipulis linearibus; racemis axillaribus, fasciculatis, folium æquantibus; pedicellis subgeminatis, patentissimis, villosis; legumine gracillimo, lineari, multiarticulato, utrinque multidentato, hamoso-piloso.

Habitat in montibus Kamaon, unde in Hortum Calcuttensem introduxit Robertus Blinkworth. Floret et fructificat fine pluviarum.

Frutex ramosissimus, erectus, paniculatus, 3-pedalis, obsitus villositate densâ, molli, patulâ. Rami teretes, virgati, levitèr flexuosi. Folia approximata, alterna, bifariè patentia, 3-foliolata, circitèr 6-pollicaria; *foliola* lanceolata, acuminata, repandula, suprà adpressè pilosa, subtùs cano-villosa, nervosa, venisque transversis reticulata; *lateralia* 2-pollicaria, basi obtusa, hinc parùm gibbosa, brevissimè petiolata; *intermedium* duplò majus, obsoletè rhomboideum, basi acutum. Petiolus *communis* villosus, teres, gracillimè canaliculatus, 1—1½-pollicaris; *partialium* laterales brevissimi, intermedius ferè pollicaris. Stipulæ parvæ, lineares, acutæ, villosæ, caducæ; *stipellæ* diutiùs persistentes, setaceæ. Flores rosei, pedicellati, patentissimi, dispositi in *racemos* axillares, erectos, 2—4-fasciculatos, terminalesque paniculatos, attenuatos, brevè pedunculatos, folia subæquantes. Pedunculus Rachisque recti, teretes, graciles, villosi; *pedicelli* tenerrimi, subfiliformes, unguiculares, alternatìm geminati, vel etiam fasciculati, patentissimi, villosi, basi muniti *bracteolâ* setaceâ, brevi. Calyx parvus, oblongus, villosus, acutè et patentèr 4-dentatus, dentibus 2 ovatis, majoribus, suffultus bracteolâ subulatâ, caducâ. Corolla calyce quadruplò major, bilabiata; *vexillum* ovatum, retusum, disco ad basin 2-maculato; *carina* divaricata, compressa, diphylla, alisque parallelis, oblongis, obtusis brevè unguiculatis. Legumen lineare, gracile, rectum, parùm compressum, 1—2-pollicare, submoniliforme, multiarticulatum, obsitum pilis densis, brevissimis, hamosis, margine utroque obtusè dentato; *articuli* convexiusculi, infimi nunc remotiusculi, extimus stylo longo, demùm deciduo apiculatus.

Plate CLVII. Fig. 1. 2. Flower. 3. The same, dissected. 4. Pods.

PHAIUS WALLICHII. Tab. 158.

Acaulis, foliis oblongo-lanceolatis, acutis; sepalis petalisque lanceolatis, labelloque cucullato crispo, integro acuminatissimis; calcare arcuato, emarginato, bracteis acuminatis. *Lindl. Mss.*

P. grandifolius, Lindl. in Wall. Cat. n. 3747. (haud *Loureirii*).

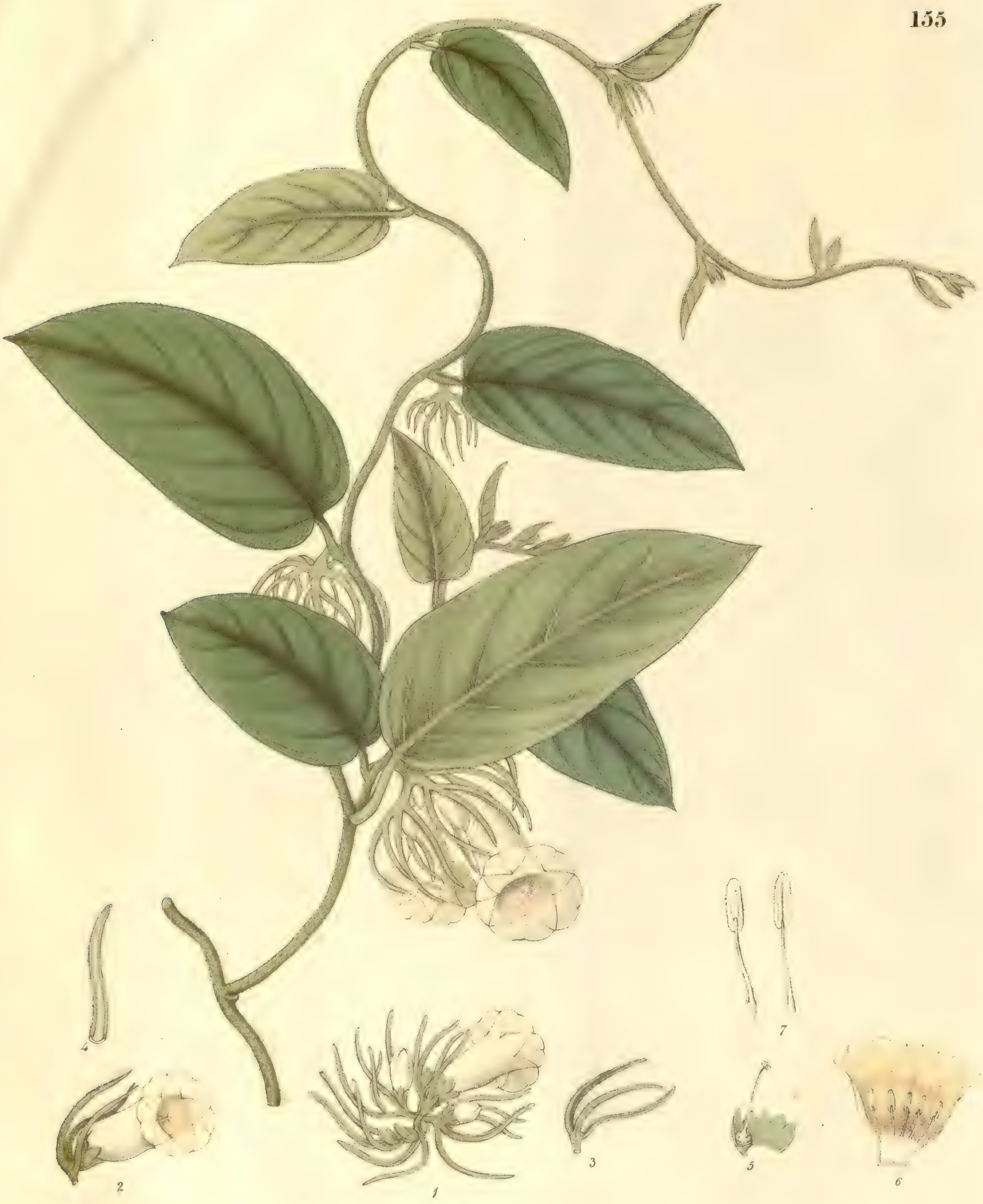
Limodorum Tankervillæ, Roxb. Hort. Beng. p. 63. (planta e Sillet.)

Incolit montes Sillet confines, undè plantas viventes in Hortum Calcuttensem misit M. R. Smith. Floret Decembre —Aprili.

Planta speciosissima, erecta, glabra, 2—3-pedalis. Radiculæ longæ, crassæ, cylindricæ, carnosæ, indivisæ. Pseudobulbus magnus, ovatus, 2—3-pollicaris, basi a vestigiis foliorum annulatus, supernè foliiferus, solitarius vel pauci seriati. Folia pauca, erecta, apice recurvato-patentia, lato-lanceolata, pedalia, 2—3-pedalia, attenuato-acuminata, basi attenuata, membranacea, suprà atroviridia, lucida, plicato-nervosa, subtùs 5-nervia, nervis prominentibus, valdè conspicuis, aliisque brevioribus interspersis. Petioli profundè canaliculati, a decurrente folio marginati, erecti et subparalleli, nunc caulem quasi mentientes, basi valdè dilatatâ alternatìm imbricantes. Scapus ex sinu petioli enascens, solitarius, erectus, valdè crassus, basi pennæ cygneæ diametrum sæpè excedens, cylindricus, 2-pedalis, remotè bracteatus, apice gerens *flores* 8—10 maximos, alternantes, patentes, albo-fuscos, inodoros, digestos in *racemum* oblongum, ferè pedalem. Bracteæ distantes, erectæ, alternæ, lanceolatæ, acutæ, lineatæ, pollicares bipollicaresve, basi amplexantes. Rachis carnosa, cylindrica, levitèr undulata. Pedunculus cylindricus, pollicaris, ovarium æquans, suffultus *bracteâ* lanceolatâ, acuminatâ, concavâ, ipso duplò longiore, citò deciduâ. Perianthium æqualitèr patentissimum, diametrum 3—4-pollicarem emetiens; *foliola* omninò distincta, plana, lanceolata, attenuato-acuminata; *anticum* demùm sursùm spectans, reliquis parùm latius, *interiora* parùm angustiora. Labellum sessile, convoluto-infundibuliforme, subadscendens, 3-pollicare, basi inferiori columnæ parti accretâ in tubum amplum, brevem, desinentem in *calcar* cylindricum, descendens, antrorsùm curvum, ovarium longitudine æquans, apice bidenticulatum; *limbus* patens, crispato-undulatus, 3-lobus; lobi laterales obtusi, abbreviati, intermedius magnus, recurvus, lanceolatus, attenuatus et acuminatus. Columna brevis, carnosa, labello inclusa, eodemque dimidiò brevior, anticè lato-sulcata, sursùm valdè dilatata et marginata, apice subtruncato biloba, lobis denticulatis. Anthera magna, conica.

This plant is remarkably like *P. grandifolius*, but differs in its very acuminate bracteæ, sepals, and petals, and especially in the labellum not only tapering to a very acute point, as in *Brassavola nodosa*, but being destitute of the rich yellow and red marking of the Chinese species.—*Lindl.*

Plate CLVIII. Fig. 1. A detached flower. 2. Apex of the column. 3. Anthers, with pollen-masses.



Vishnupersaud del.

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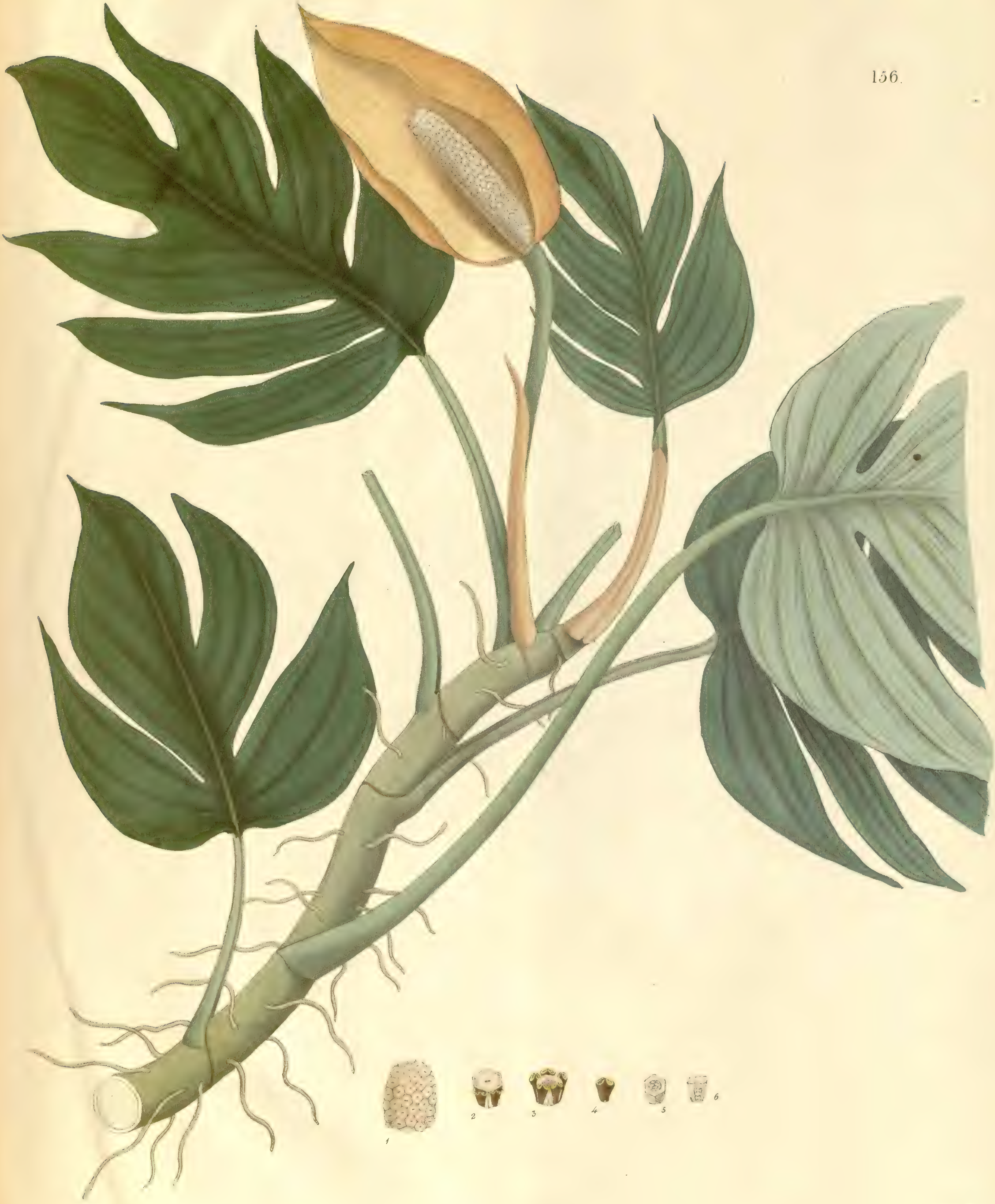
M. Gauci lith.

Convolvulus barbatus



Vishnupersaud del!

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M. Gauci lith

Pothos glauca.

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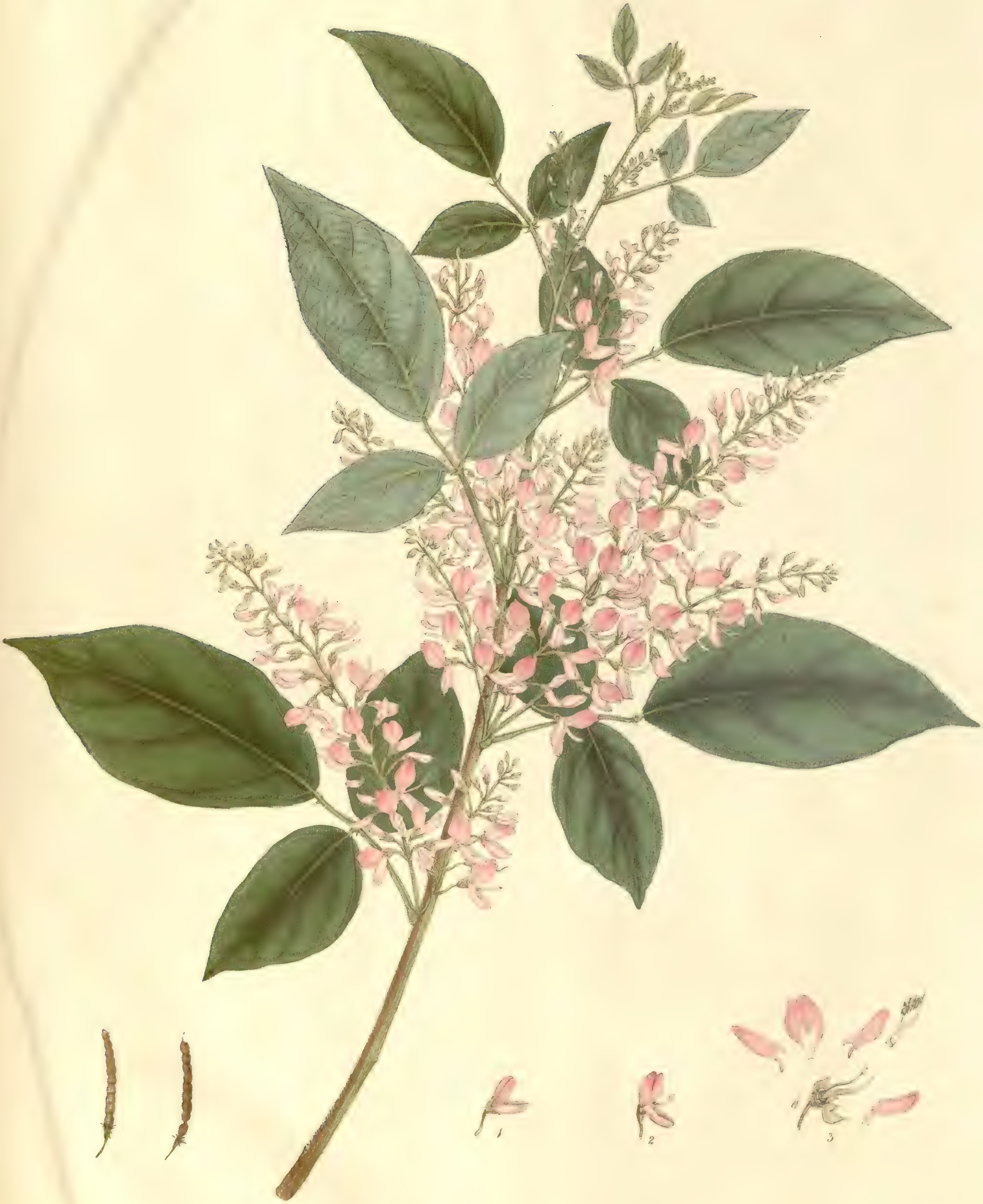

Gorachand del^t

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M Gauci lith

Desmodium sequax

Phaius Wallichii.

M Gauci lith.

ERIA CONVALLARIOIDES. Tab. 159.

Eria convallarioides: foliis oblongo-lanceolatis, distichis, plicatis; caulibus compressis, teretibus, striatis, sepalis petalisque ovatis, inæqualibus, extùs villosis, labello unguiculato, ovato, apice tridentato; spicis axillaribus, oblongis, densissimis, pedunculatis, folio multò brevioribus, bracteis subulatis.—*Lindl. Orchid.* p. 70.

Crescit in montibus Napaliæ, super truncis arborum, florens mensibus Julii—Septembris.

Radiculæ numerosæ, longæ, teretes, villosulæ, fibrillosæ. Pseudobulbi pauci, aggregati, carnosi, compressi, oblongi, 5—6-pollicares, unciam lati, erecti, glabri, dum recentes obtecti *squamis* bifariè imbricantibus, adpressis, plicatis, levitèr ventricosis, ovatis, membranaceis, superioribus acutis, apice liberis, usque ad pollices 2 longis, supremo nunc in folium desinente, inferioribus obtusis, sensìm brevioribus. Folia ex apice pseudobulbi 3 vel 4, erecto-patentia, oblongo-lanceolata, acuta, 6—8-pollicaria, coriacea, plicata, atroviridia, lucida, subtùs nervis pluribus gracillimis, subcarinatis notata, deorsùm attenuata in *petiolum* 2-pollicarem, canaliculatum. Scapi aliquot e sinubus foliorum orti, cylindrici, carnosi, pube hyalinâ conspersi, 2—3-pollicares, basi foveolâ bulbi immersi, squamulâque involuti brevissimâ, ovatâ; cæterùm nudi, apice gerentes *racemum* oblongo-cylindricum, erectum, densiflorum, compactum, 3-pollicarem, obtusum, vix ultra basin limbi folii elevatum. Flores parvi, albi, inodori, perquam densè approximati, patentissimi, ex ovario subsessili, cylindrico, pubescente nutantes; *bracteola* lanceolata, concava, ovarium subæquans, demùm reflexa. Perianthium campanulato-globosum, sub-bilabiatum, patens; *foliolorum exteriorum anticum* lanceolatum; *lateralia* obliquè ovata, obtusa, duplò isto latiora, basi dilatatâ, puberulâ infra columnam connata in sacculum brevem, parùm compressum; *interiora* lanceolata, antico subsimilia cumque illo labium inferius perianthii efformantia. Labellum semper posticum, i. e. sursùm versum, unguiculatum, foliolis exterioribus paullò brevius, læve, nudum; *unguis* brevis, canaliculatus, basis columnæ continuus, arcuato-adscendens; *lamina* parva, crassiuscula, ovata, concava, levitèr plicata, 3-loba, lobis parvulis, obtusis, intermedio majore, apice flavicante recurvato. Columna brevis, crassiuscula, columnaris, basi producta, apice foveâ 3-lobatâ; stigma parvum, anticum. Anthera terminalis, purpurascens, ovata, obtusa, 2-locularis, persistens. Massæ 8, clavatæ, albæ, ope glandulæ communis cucullo anticè insertæ. Capsula unguicularis, ovata, obtusè 3-angularis, lævis, basi columnæ superstite coronata.

Plate CLIX. Fig. 1. 2. Flower. 3. The same, dissected.

ERIA EXCAVATA. Tab. 160.

Eria excavata: foliis lanceolatis, binis, plicatis; caulibus oblongis, obtusis, sulcatis; sepalis basi pilosis petalisque oblongis, obtusis; labelli trilobi, tricarinati lobo mediò emarginato; racemis lateralibus, erectis, folio brevioribus, bracteis obovatis, recurvis, ovario multò brevioribus.—*Lindl. loc. cit.* p. 67.

Crescit rariùs in montibus altissimis Napaliæ, supra arborum truncis. Floret mense Martii.

Radix constans fibris teretibus, ramulosis, lævibus. Pseudobulbi plures, arctè fasciculati, seriati, lignosi, cylindrico-clavati, digitum crassi, a pollice usque ad pollices 6 longi, erecti, parùm complanati, glaberrimi, parallelè sulcati, a vestigiis foliorum remotè annulati, hinc indè foveâ excavati magnâ, valdè profundâ, ovali, unguem ferè emetiente, a pedunculi delapsi insertione manente; basi laxè involuti *bracteis* membranaceis, alternis, ovatis, acutis, lineatis, supernè nudi, apice 2-phylli. Folia lanceolata, erecto-patentia, brevè petiolata, utrinque attenuata et acuta, coriacea, lævia, lucida, parùm canaliculata, 5-pollicaria. Petioli breves, profundè canaliculati, basi dilatati. Racemi infra apicem pseudobulbi laterales, pauci, solitarii, alterni, foliis breviores, brevè pedunculati, erecti, bracteati. Pedunculus pollicaris, *rachis*que carnosi, cylindrici, canò densèque villosi; *fructiferi* elongati, glabriusculi. Bracteæ ovato-oblongæ, acutæ, membranaceæ, unguiculares, recurvato-patentes, seriùs dilabescentes, extùs villosulæ; aliquot per pedunculum sparsæ, reliquæ minores infra singulum florem solitariæ. Flores mediocris magnitudinis, pedicellati, flavicantes, subsecundi, inodori. Perianthium secundum; *foliola* lanceolata, acuta; *exteriorum lateralia* basi parùm dilatata, patentiuscula, subtùs villosula, *posticum* glabrum; *interiora* parùm angustiora, intra posticum exteriorum subconniventia et levitèr cum illo fornicata. Labellum adscendens, læve, cum columna producta articulatum, basi angustatum, marginatum, intùs carinis tribus notatum; *limbus* 3-lobus, *lobi laterales* dentiformes, *intermedius* reniformis, nudus, patens, flavus. Columna deorsùm producta; pars libera brevis, conica, intra basin labelli occulta. Anthera ovata, parvula. Ovarium longiusculum, villosum, cum pedicello pollicem emetiens.

Plate CLX. Fig. 1. 2. Flowers, enlarged.

EUGENIA BIFARIA. Tab. 161.

Arborea, lævissima; foliis oblongis, acuminatis, approximatis, brevè petiolatis, bifariè patentibus, lucidis, suprà bullatis, subtùs transversè nervosis, anastomosi vasorum duplici, valdè conspicuâ, a margine remotâ; corymbis axillaribus, solitariis, ramosis; ovario clavato, gracili-pedicellato, petalis orbiculatis, unguiculatis; baccâ ovali, lobis calycis persistentibus, incurvis styloque coronatâ.

Incolit montes Sillet confines, undè specimina sicca misit Francis De Silva.

Arbor. Ramuli cylindrici, cinerei, ad insertionem foliorum subcomplanato-dilatati, uti omnes partes glaberrimi; *recentes* alternatìm compressi, obsoletè tetragoni. Folia approximata, opposita, subbifariè patentia, oblonga, acuminata, integerrima, basi obtusa vel acutiuscula, interstitiis duplò triplòve longiora, 5-pollicaria, coriacea, lævia, suprà lucida, bullato-rugosula, subtùs nervis frequentibus, subtransversis, versus peripheriam huicque parallelè arcuatis et confluentibus, costâque elevatis, venis numerosis, magnis, reticulatis, inter marginem et anastomosin istam nervorum in seriem utroque parallelam dispositis. Petioli teretes, semipollicares, suprà sulcati, basi articulati. Corymbi axillares, solitarii, oppositi, laxiusculi, foliis dimidiò triplòve breviores, brevè pedunculati, plùs minusvè divisi. Pedunculi oppositi, subbrachiati, complanato-tetragoni, suffulti pari *bracteolarum* parvulo, opposito, lanceolato. Flores magni, albi, lævissimi, ternati, pedicello gracili, nunc longo suffulti. Calycis *tubus* (i. e. *ovarium*) oblongo-clavatus; *faux* cyathiformis, divisa in *lobos* 4 subrotundos. Petala orbiculata, lobis calycinis duplo-majora, minutìm crenulata, *ungue* brevi, lineari suffulta. Stamina valdè longa et numerosa, patentissima; *filamenta* ferè capillacea, alba; *antheræ* parvæ, pallidæ, versatiles. Stylus rectus, gracilis, persistens, staminibus paullò brevior. Bacca pendula, ovalis, obtusa, flava, $1\frac{1}{2}$-pollicaris, glabra, vertice foveâ exsculpta magnâ, obtusè et incurvatò 4-lobâ, styliferâ.

My acquaintance with this species is derived from dried specimens, and from a beautiful drawing in the possession of my most esteemed patron and friend H. T. Colebrooke, Esq., to whom I am indebted for the accompanying engraving. It must be a very handsome tree at all times, on account of the elegant shining foliage with which it is most abundantly furnished; the flowers are large and ornamental, collected in opposite axillary bunches.

Plate CLXI. Fig. 1. Flower, opened. 2. 3. Ovarium, cut vertically and horizontally. 4. Fruit. 5. 6. The same, dissected. 7. Seed. 8. A leaf of the largest size, showing the double row of veins running parallel to the margins.

FINLAYSONIA.

Corolla rotata. Stamina distincta, processubus faucis 5, capillaceis, erectis, apice uncinatis, alternantia, antheris bilocularibus. Pollinis massæ 20, granulosæ, globosæ, demùm apici plano-dilatato retinaculi exsulci, gracillimi, basi glandulosâ inserti adhærentes. Stigma magnum, ovatum, basi 5-gonum. Folliculi 2, divaricati; ovati, rostrato-uncinati. Semina obovata, plana, comâ parcissimâ, brevi, reflexâ, marginibus adpressâ.

Classis Linneana: *Pentandria digynia.*

Ordo naturalis: *Asclepiadearum* cohors *Periploceæ* Brown, familiam cum *Apocyneis* conjungens.

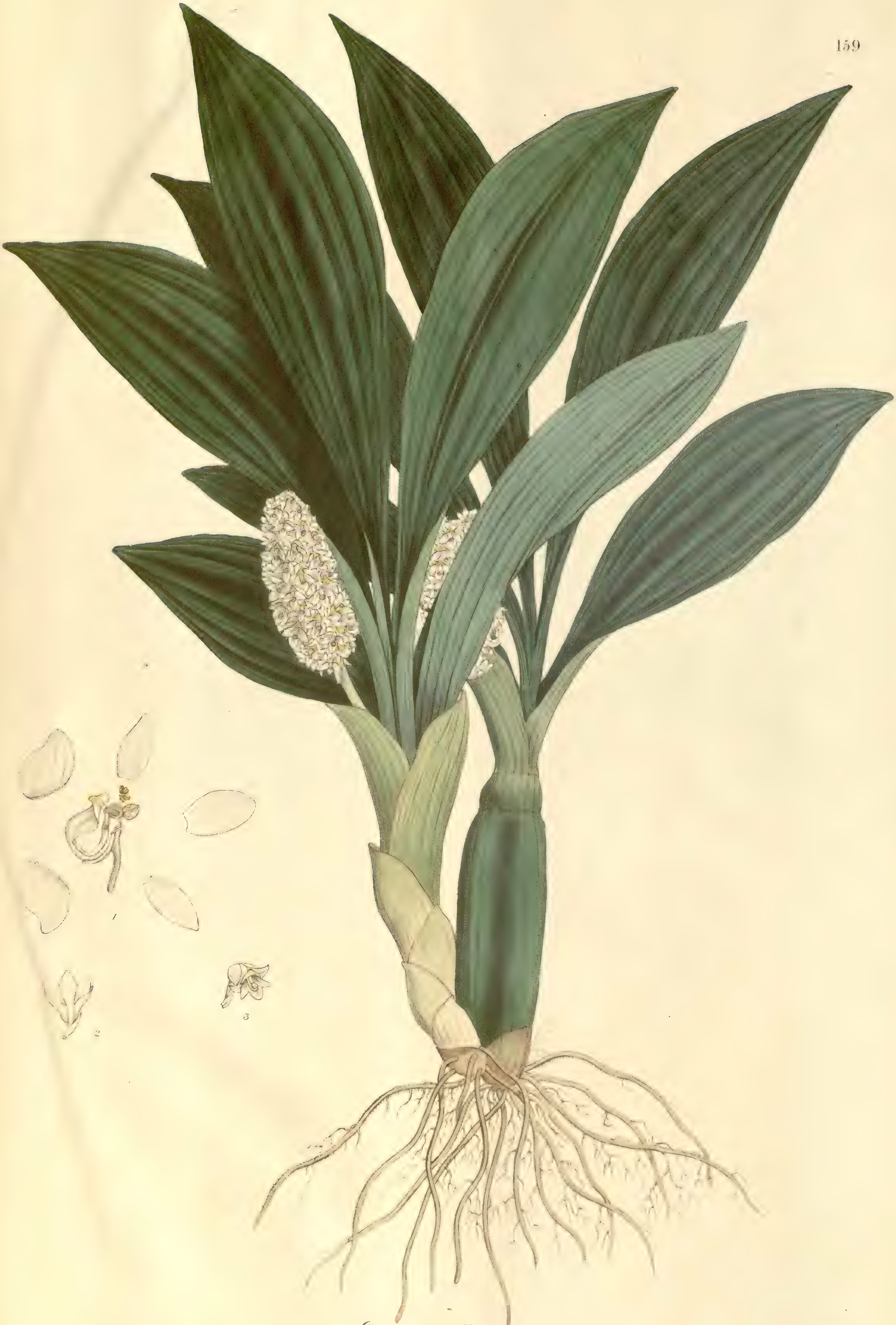
Frutex volubilis, carnosus, lactescens, glaber. Corymbi florum parvorum ex axillis alternis. Nominavi in memoriam amici carissimi, beati Georgii Finlaysonii, juvenis literis elegantibus et scientiis, præcipuè chirurgicâ et botanicâ, morumque suavitate ornatissimi, qui ex itinere Siamensi et Cochinchinensi in patriam redux præmaturo succubuit fato.

FINLAYSONIA OBOVATA. Tab. 162.

Gurua obovata, Herb. Hamilt.

Crescit ad litora æstuariorum Gangis, Irawaddi et fluminum Martabaniæ, florens Augusto—Octobre, fructifera Novembre.

Frutex magnus, volubilis, ramosus, omnibus partibus lævis lacteque copioso scatens. Caulis digitum minimum crassus, cylindricus, basi fibris radicalibus longis repens, *rami*que *inferiores* tecti epidermide fuscâ, nitidâ, punctis crebris, elevatis asperâ. Rami teretes, parùm flexuosi, adque foliorum insertionem subarticulato-dilatati, sæpiùs subalternantes vel subdichotomi; *novelli* rufescentes, glauci, obsiti *squamis* oppositis, oblongo-lanceolatis, acutis, unguicularibus, erectis, laxiusculè et remotè imbricantibus, mox dilabescentibus. Folia opposita, petiolata, patentiuscula, sæpè adscendentia et secunda, obovata, obtusissima, nunc levitèr retusa, terminata cuspidulâ latiusculâ, acutâ; integerrima, deorsùm attenuato-acuta, 3—6-uncialia, inferiora ramorum approximata, interstitiis triplò longiora, superiora eadem vix æquantia, remota; coriacea, plana, suprà e flavescenti lætè viridia, lucida, basi absque ullis ciliis; subtùs glaucescentia, costâ albidâ, convexâ et elevatâ, nervis tenuissimis, vix conspicuis, parallelis, transversis, marginem subrecurvatum versus arcuato-confluentibus, venis minimè elevatis, numerosissimis, pulcherrimè et minutìm reticulatis. Petiolus crassiusculus, pollicaris, plano-sulcatus, sæpè curvus, ad axillam serie ciliarum subulatarum, carnosarum, ramum ambientium, citò evanidarum, lineam transversam linquentium. Corymbus axillaris vel extra-axillaris terminalisve (ex axilla altera paris foliorum summi), pedunculatus, latò-rotundatus, multiflorus, folio brevior, primùm trichotomus, deinceps dichotomus; fructiferus valdè elongatus. Pedunculi crassi, cylindrici, carnosi, punctulati, sæpè erubescentes; *communis* petiolo paullò longior; *partiales* breves, puberuli, inferiores oppositi, exteriores

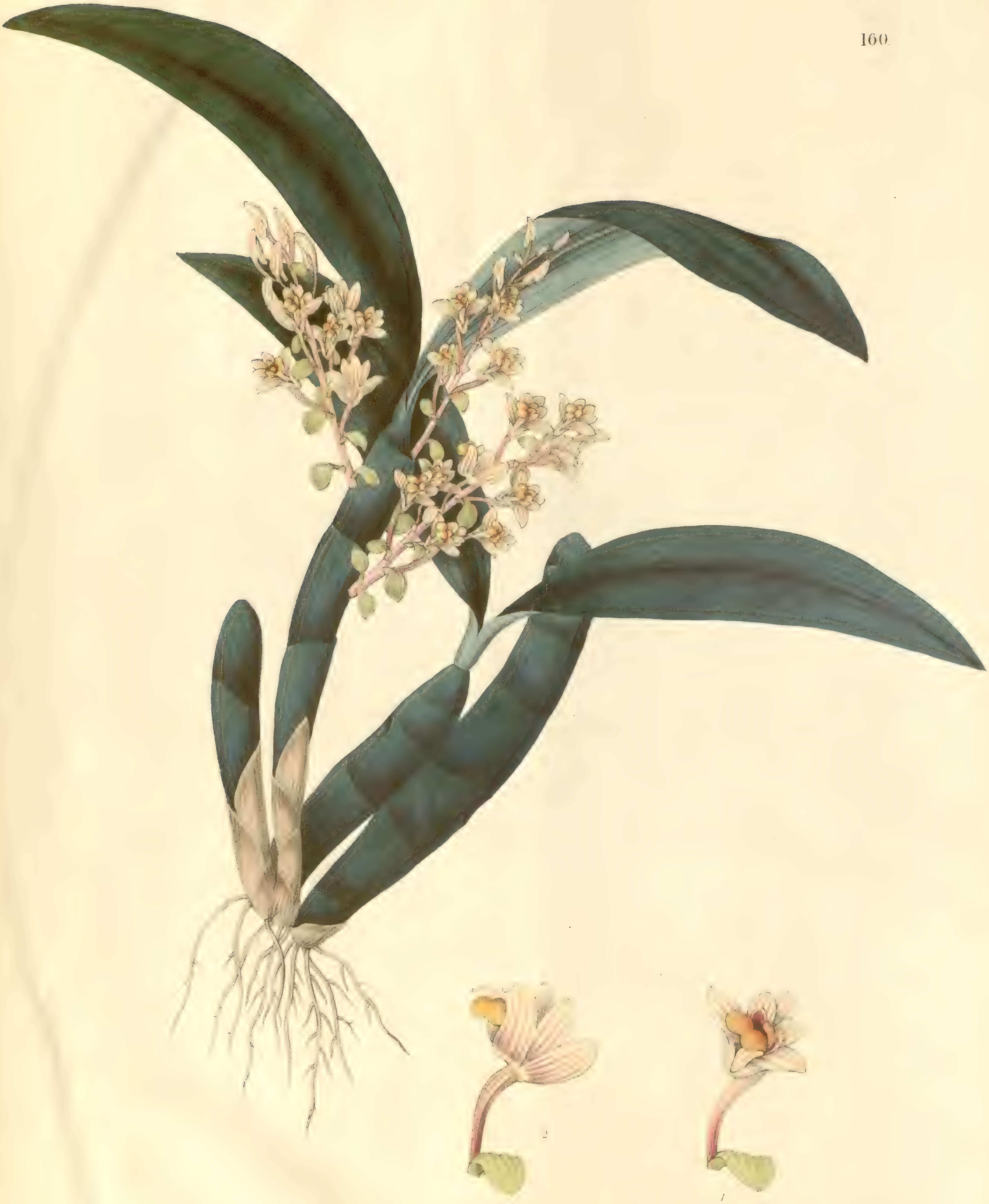


ersaud delt

Eria convallarioides.

M Gauci lit

Printed by Engelmann, Graf, Coindet & Co



Eria excavata

Gorachand del^t

M. Gauci lit^o

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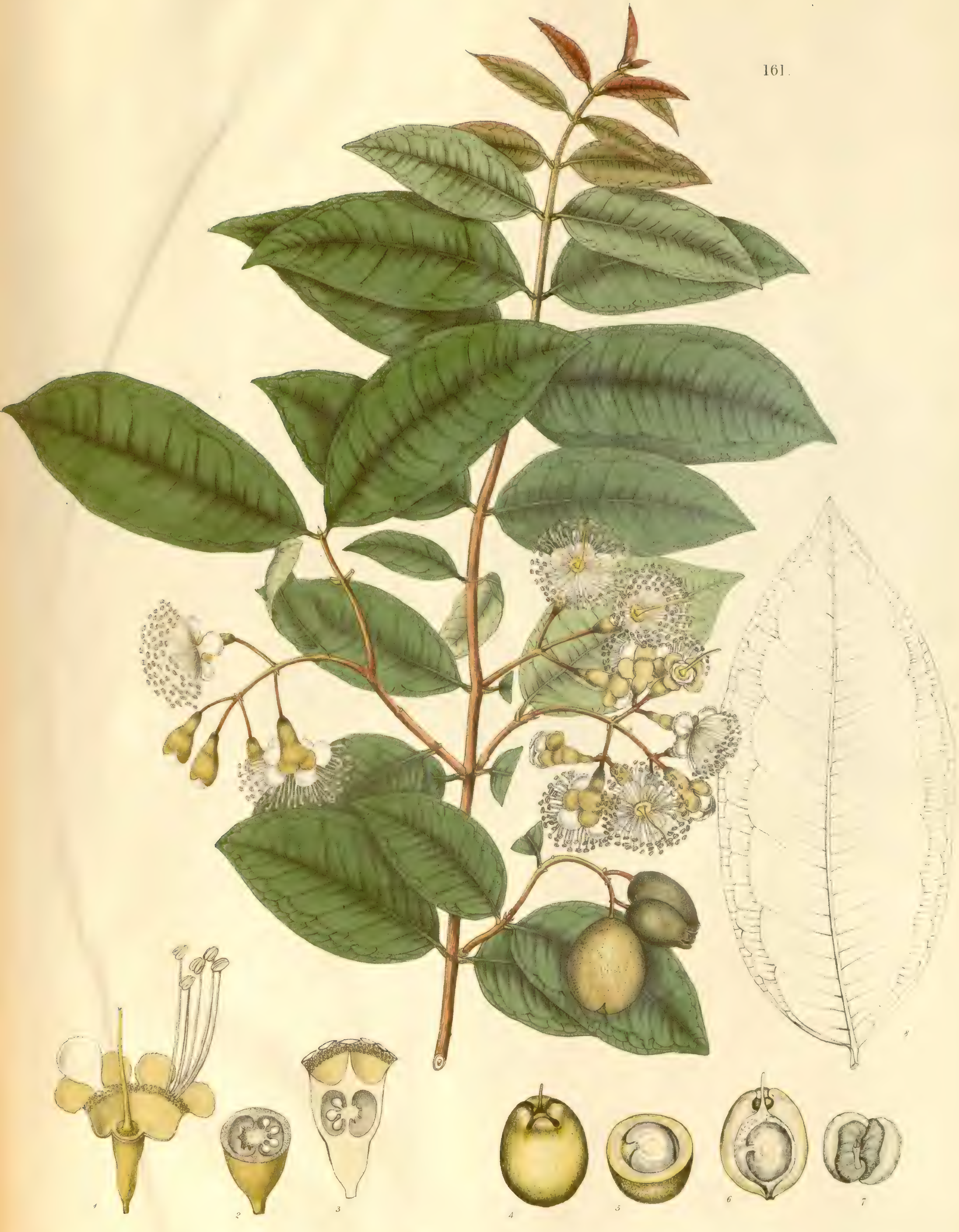
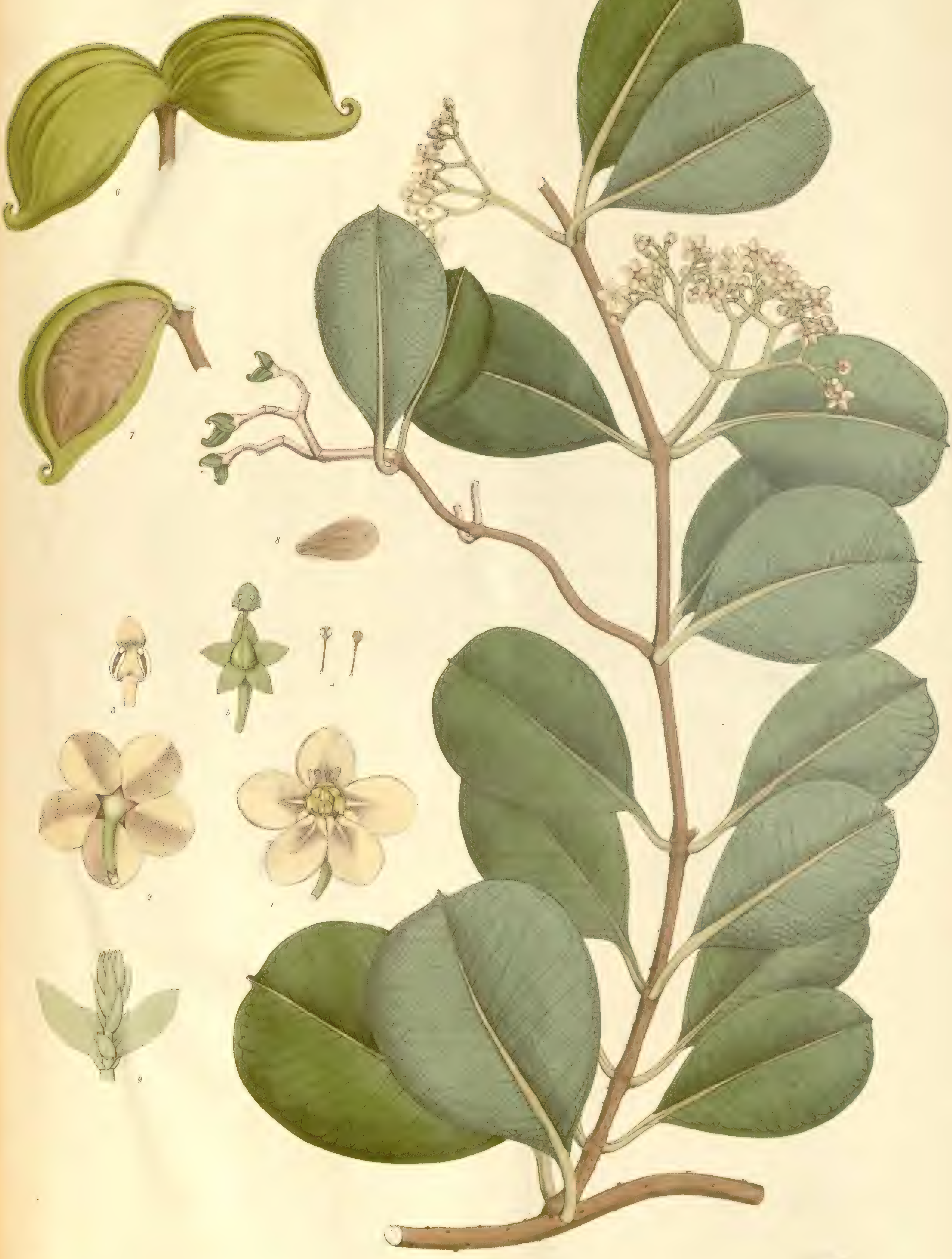


Eugenia bifaria.

orachand del'

Printed by Engelmann, Graf, Coindet & Co.

M Gauci lith



Vishnupersaud del^t

M. Gauci lith

Finlaysonia obovata.

Printed by Engelmann, Graf, Coindet & Co

divaricato-dichotomi, articulati. Bracteæ minutæ, carnosæ, infra divisuras oppositæ, iisdem adpressæ, lanceolatæ, ciliatæ, carinatæ, persistentes. Flores parvi, e luteo fuscescentes, fœtorem *Stapeliæ* spargentes, fasciculati, gemini ternive, suffulti *pedicello* carnoso, brevi, subclavato, basi pari *bracteolarum* emarcescentium, vel duabus decussantibus munito; æstivatione ovati, obtusi, marginalitèr imbricati. Calyx minimus, 5-partitus, plano-patens, fuscescens; *laciniæ* ovatæ, carnosæ, acutæ, pilis albis, brevibus ciliatæ, basi imbricantes, intùs ad fundum sinuum *granulis* minutis, succulentis, solitariis, cum laciniis alternantibus. Corolla plana, rotata, 5-partita: *laciniæ* ovatæ, obtusæ, levitèr obliquæ, subtùs glabræ, suprà hìnc (ad latus nempè interius dimidium) nudæ, indè purpurascentes pilisque longis, rectis, mollissimis, candidis barbatæ; *faux* notata tuberculis 5 parvulis, laciniis alternantibus, singulis gerentibus *filum* erectum, stamini oppositum, eoque duplò longius, apice retrorsùm curvatum, hamosum. Stamina 5 erecta, distincta, glabra; *filamenta* perquam brevia, planiuscula, fauci corollæ intra tubercula inserta; *antheræ* magnæ, ovatæ, carnosæ, parùm distantes, apiculâ terminatæ brevi, latiusculâ, lanceolatâ, angulo recto super verticem stigmatis inflexâ, intùs mediò stigmatis basi adglutinatæ, margine utroque longitudinalitèr dehiscentes; *locula* parùm introrsùm versa, membranâ albâ, crenulatâ marginata, medio subcontracta. Massæ pollinis 20, minutissimæ, sphæricæ, albæ, granulosæ, quarum 2 vel 3 demùm apici retinaculi singuli adglutinatæ, reliquæ angulo superiore vel inferiore loculi sæpiùs retentæ. Ovaria 2, arctissimè invicem cohærentia, oblongo-ovata, lævia, utrinque lineâ inscripta verticali, 1-locularia; *ovula* plurima, placentæ centrali adfixa. Stylus filiformis, longiusculus. Stigma magnum, carnosum, ovatum, basi truncatâ 5-angulare, lateribus convexis, apice acuto indiviso. Retinacula 5, angulis stigmatis parallela, capillacea, fusca, exsulca, basi glandulâ albâ, minutâ, capitatâ angulis stigmatis basis adfixa, apice plano-dilatata, ovata, obtusa. Folliculi 2, carnosi, læves, 3-pollicares, divaricato-patentissimi, ovati, apice rostrato-acuti et uncinati, subtùs ventricoso-gibbosi, subcostati, suprà notati areâ plano-convexâ, margine crasso, incurvo circumdatâ, medio rimâ longitudinali dehiscentes. Receptaculum magnum, fungosum, suturæ adfixum, obliquè ovatum, subcultriforme, demùm liberum. Semina plura, inversa, retrorsùm imbricata, plana, bracteiformia, obovata, fusca, ferè pollicaria, obtusa, deorsùm attenuata, margine tenuissimo, subscindente, basi acutâ munita comâ grossiusculâ, parcâ, sericeâ, ab umbilico retrorsùm flexâ, marginibusque laxè adhærente, vix ultra medium seminis ad oppositam ejus extremitatem excurrente. Structura *interior* omninò ut in cæteris *Asclepiadeis*.

The flowers of this curious plant are so small that I have found it exceedingly difficult to trace the structure of their very minute organs of fructification. The column is almost globular, and is surrounded with five extremely delicate, white, erect, very slightly converging threads, which are twice its length, and bent back at the apex so as to form a small hook. Stamens perfectly distinct and somewhat remote from each other; filaments very short; anthers large, adhering with their centre to the middle of the stigma, and bursting inwardly along each margin; their apices broadish and bent down upon the stigma, which they almost conceal; the cells are narrow, membrane-margined, slightly contracted in the middle, each containing four most minute, globular, white, granular pollen-masses. Ovarium single; style slender, longish; stigma large and fleshy, ovate, with convex sides and five-cornered truncate base; its apex acute and undivided. Retinacles five, longish, flattened, linear, almost capillary, of a shining brown colour; they are attached with their base to the corners of the base of the stigma by means of a white, soft, and spherical gland; they rest loosely on the obtuse angles of the stigma, extending as far as their middle, and are visible between the anthers; their apex is flattened, of an obovate, obtuse shape. As soon as the cells of the anthers burst, one of the two pollen-masses contained in each escapes and adheres to the upper or broad part of the retinacle, while the other is sometimes found remaining in the cell towards its upper end. The follicles are divaricate, of a ventricose ovate form, perfectly smooth. They burst along the upper or less convex side, where they are surrounded by an elevated incurved ridge or margin. The seeds are large, flat, obovate, elegantly imbricate; they appear to be naked, but on being detached from their fleshy placenta, a few silky whitish fibres are seen proceeding backwards from their acute umbilicus, parallel to the margins and closely adhering to these, some of the fibres reaching almost as far as the opposite or obtuse end of the seed.

Our plant agrees in several respects with *Cryptostegia*, Brown in Botan. Register, vol. 5. n. 435. (*Nerium grandiflorum*, Roxb.), and together with that genus connects the *Asclepiadeæ* with the *Apocyneæ*. Both are furnished with five appendages, rising from the throat of the corolla, opposite the stamens, alternating with the laciniæ, and with bilocular stamens adhering to the sides of the stigma. The retinacles exist in both, and resemble each other in general figure and position; but instead of being free, as in our shrub, the upper broad end adheres in *Cryptostegia* to the margins of the anthers; and the glandular knob by which they are attached to the stigma in our plant, is in that supplied by a linear process which is elongated vertically at both ends. But the great difference consists in the nature of the pollen, which in *Cryptostegia* continues always a homogeneous substance, whereas in our plant it is condensed into twenty globular masses. To this curious structure of the flower of *Nerium grandiflorum* I adverted in a paper, presented to the Asiatic Society of Calcutta in 1815 and printed in 1816, (see Asiatic Researches, vol. 12. p. 568, note at the bottom); so that I may, in this single instance, boast of having preceded the most eminent of all botanists in the announcement of a novel structure in the *Asclepiadeæ*. Indeed, we have both been preceded by Dr. Roxburgh, who distinctly alludes to these retinacles in his manuscript Flora Indica quoted in the Botanical Register. It is remarkable that these retinacles appear at a much later period than in any other member of the family, either observed by Mr. Brown or myself; even shortly before the expansion of the corolla they are only indicated by a small linear milk-white body between the swelled margins of the anthers.

I have dedicated this new and remarkable genus to the memory of my very dear friend George Finlayson, Esq.

of Thurso in Scotland, Assistant Surgeon in His Majesty's 8th Regiment of Light Dragoons, and attached to the Mission sent by the Bengal Government to Siam and Cochinchina, in 1821. I had the happiness to become acquainted with that gntleman at Singapur, towards the close of 1822, and we returned together to Calcutta by the same ship. Unfortunately a deep-rooted consumption, caused by the enthusiastic zeal with which my amiable friend performed his duties, both as surgeon and naturalist to the expedition, made such frightful progress during the latter part of the voyage, that scarcely any prospect remained of his ultimate recovery. Still his return to Europe held out a feeble hope of his valuable life being prolonged; but that hope was soon frustrated; he died on his passage to England. Of the excellence of my friend's character, and the large share of knowledge which he possessed, it would be presumption in me to attempt offering any further proofs than what are contained in his Journal of the Mission, which was published, together with a short account of his life, by the late Sir Stamford Raffles, who highly appreciated his worth. He had made the most extensive and valuable collections in all branches of natural history; but owing to his painful and distressing illness, they were much injured and reduced before they reached their final destination at the Honourable East India Company's Museum.

I should have adopted the generic name *Gurua* given to our plant by Dr. Hamilton, although founded on a wrong native name supplied to him, if I had not printed the accompanying plate before I became aware of their identity, and if I had not been quite sure that that worthy botanist had he lived would readily have consented to the change.

Plate CLXII. Fig. 1. 2. Flower, enlarged. 3. Stamen, detached. 4. Retinacle, viewed from both sides, two pollen-masses adhering to the inner. 5. Pistil. 6. A pair of follicles. 7. One of these, detached and opened. 8. Seed. 9. A young shoot.

RHAPHISTEMMA.

Corolla campanulata, tubo amplo, cylindrico, æquali, limbo 5-partito, patente. Corona staminea simplex, 5-phylla, foliolis carnosis, erectis, subulatis, medio ventricosis, filamentis oppositis, apice subexsertis. *Antheræ* membranaceæ, semiorbiculares, 2-loculares. Pollinis massæ cereaceæ, ovatæ, ventricosæ, basi adfixæ, pendulæ. Stigma pentagonum, muticum. Folliculus solitarius, oblongus, subventricosus, lævis. Semina comosa.

Classis Linneana: *Pentandria digynia.*

Ordo naturalis: *Asclepiadeæ*, Brown.

Habitus: Frutex volubilis, lævis, lactescens, foliis magnis, cordatis, floribus speciosis, albis, racemoso-corymbosis. Proximè accedit *Kanahiæ*, Br. quæ verò differt habitu erecto, columnâ semiinclusâ, coronâ stamineâ apici tubi filamentorum insertâ demùmque folliculis gracilibus.

RHAPHISTEMMA PULCHELLUM. Tab. 163.

Pergularia? campanulata, Herb. Hamilt.

Asclepias pulchella, Roxb. Hort. Beng. p. 21.

Nomen Bengalense, *Kulmi.*

Habitat in Sillet Bengalæ, undè in Hortum Calcuttæ Botanicum introduxit M. R. Smith; in Gualpara, F. Hamilton, M.D.; in Tavoy, Gulielm. Gomez; in Pegu prope Rangoon, 1826. Floret sub pluviis; fructificat Decembre.

Frutex magnus, latè super alios frutices arborumque truncos volubilis, ramosissimus, lactescens, omnibus partibus glaberrimus. Rami cylindracei, exteriores longi et graciles. Folia magna, opposita, distantia, patentia, petiolata, ovato-cordata, acuminata, integerrima, margine obsoletè repandula et subundulata, cæterùm plana, sinu basis amplo, lato, mediò suprà acervulo corpusculorum subulatorum, carnosorum, lobis rotundatis, distantibus; membranacea, 3—5-pollicaria usque ad palmaria, quin majora, lævia, lætè viridia, subtùs exstantèr 7-nervia, tenuitèr venosa, dum juniora glaucescentia. Petioli teretes, foliis dimidiò breviores, suprà levitèr sulcati, basi parùm incrassati inque axilla (more familiæ) fasciculo ciliarum brevium, ramum serie transversâ ambientium. Flores magni, pollicares, candidi, demùm lutescentes, inodori, glaberrimi, longè pedunculati, fasciculati, dispositi in *racemum* simplicem, lato-ovatum, pauciflorum, extra-axillarem, solitarium, folio parùm breviorem, erectiusculum; vel rariùs in *umbellam* bifidam, longè pedunculatam. Pedunculus *communis* teres, petiolo parùm longior, abiens in *rachin* levissimè intumescentem, irregularitèr flexuosam; nunc apice bifidus; *partiales* geminati vel ternati, vel subumbellati, 2—3-pollicares, graciles, teretes, patentissimi, suffulti *bracteolâ* lanceolatâ, acutâ, brevissimâ. Calyx ovatus, vix lineas 3 longus, albescens, profundè 5-fidus; *laciniæ* subinæquales, ovatæ, acutæ, membranaceo-marginulatæ, parùm ciliatæ, fundo corollæ adpressæ, basi subangustatæ, ibique remotiusculæ, sinubus munitis ciliis aliquot subulatis, carnosis. Corolla campanulata, æstivatione oblongo-clavata; *tubus* cylindricus, capax, semipollicaris, calyce multò longior, extùs dilutè viridescens, apice vix dilatatus; *limbus* patentissimus, tubum longitudine subæquans, divisus in *lacinias* 5 ovato-oblongas, obtusas, levissimè inæquilateras, apicem versus recurvas vel revolutas, æstivatione imbricatas; *faux* ampla, pervia, nuda. Columna fructificationis magna, alba,

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Raphistemma pulchellum.

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carnosa, columnaris, salvis apicibus coronæ inclusa. Corona staminea simplex, erecta, 5-phylla, staminibus opposita: *foliola* libera, distincta, subulata (undè nomen generis derivatum), teretia, basi parùm contractâ supra basin dorsi filamenti inserta, staminibus duplò longiora, indè levitèr ventricosa, apice teretia, vix conniventia, faucem corollæ paullò superantia. Filamenta 5, fundo corollæ inserta, distincta, magna, prismatica, basi utrinque dente brevi, 3-angulari, acuto notata, subsagittata, dorso sulcata, marginibus convexiusculis invicem contigua, intùs ad latera concava, mellifera, medio carinâ elevatâ, crassiusculâ, longitudinali, convexâ pistillis laxè applicata. Antheræ 5, parvæ, carnosæ, membranaceo-marginatæ, lateribus stigmatis applicatæ, semiorbiculatæ, intùs, a carina ista filamenti continuata in 2 divisæ locula concaviuscula. Pollinis massæ 10, magnæ, pendulæ, e viridi flavescentes, cereaceæ, læves, ovoideæ, obtusæ, margine respectu paris exteriore convexo, interiore subrecto, lateribus convexis, plano-ventricosis, basi intùs subarticulatìm adfixæ cruribus brevibus, divaricatis, clavatis *retinaculorum* 5 oblongorum, nitidorum, dorso sulco profundo exsculptorum, angulis stigmatis sulcatis incumbentium, inter antheras conspicuorum. Ovaria cylindraceo-oblonga, lævia, latere interiore planiusculo parallela, attenuata in *stylum* brevem, teretem. Stigma magnum, carnosum, depresso-pentagonum, vertice convexum et nudum. Folliculus magnus, solitarius, oblongus, coriaceus, lævis, dependens, dorso convexus, ventre planiusculus, apicem obtusam versus parùm attenuatus, 6-pollicaris. Semina valdè numerosa, plana, ferruginea, ovata, lævia, membranaceo-marginulata, vix semiunguicularia, umbilico acutiusculo coronata *comâ* densâ, prælongâ, sericeâ.

This fine shrub is the largest-flowered *Asclepiadea* with which I am acquainted, and I have found it peculiarly adapted to afford a clear and complete insight into the organization and economy of that difficult family, so beautifully developed by Mr. Brown. If the analysis instituted by that illustrious botanist be repeated in a flower of our plant, even long before the corolla has become visible beyond the calyx, the pollen-masses will be found quite consolidated into a distinct form within the respective cells of their anthers. Soon afterwards the processes of the retinacles extend to the masses through the upper part of the anthers, which has now burst open. The stamens are epipetalous, and quite distinct and free; their inner concave side is divided into two lateral cells containing a sweet mucous fluid, by means of a vertical broadish ridge, which rests on the pistils. In *Sarcolobus* the stamens are strictly gynandrous, the anthers being sessile and attached to the base of the stigma; and this structure exists probably also in some other genera.

I cannot reconcile this shrub with the characters of any of the genera belonging to the family, although it seems to come very near to *Kanahia*, Br., as I have already pointed out. Dr. Roxburgh, in his manuscript account of our plant, which he calls *Asclepias pulchella*, observes that Rheede's figure of *Adakodien* would be a tolerably correct representation of it if the fascicles of flowers were long-peduncled. That plant, however, has long ago been formed by Mr. Brown into a most remarkable genus, very different from ours, and called by him *Holostemma.* The individuals of *Rhaphistemma pulchellum* which I found in Pegu, and which were collected in Tavoy by W. Gomez, differ in no respect from the Hindustan plant, except in having a pale purple broadish stripe running down the middle of each division of the corolla, and sometimes extending in small specks down the tube and even over the calyx.

I am acquainted with two species of *Holostemma*, namely:

1. *H. Rheedii* Spreng., foliis lato-ovatis, cordatis.—*Cynanchum cordifolium* vel *grandiflorum?* Herb. Russel. *Cynanchum annulare*, et *Asclepias convolvulacea*, Herb. Heyn. *A. annularis* Heyn. Herb. Wight. *Gomphocarpus? volubilis*, Herb. Hamilt. *Asclepias annularia*, Roxb. Hort. Beng. p. 20.

Habitat in Malabaria, Rheede; peninsula Indiæ, Russell, Heyne, et Wight; Coromandelia, Roxburgh; Gualpara, Hamilton.

In Dr. Hamilton's valuable manuscript *Catalogue of a collection of dried specimens presented to the Honourable East India Company's Museum*, Rheede's and Roxburgh's plant is quoted with a doubt. He says that the Hindus call the shrub *Bara Dudhiya.*

2. *H. fragrans*, foliis oblongo-cordatis, summis oblongo-lanceolatis, basi cordato-subsagittatis, lobis subimbricantibus.

Crescit in montosis ripæ Irawaddi ad Scendya et Prome, etiam in monte Taong Dong haud procul ab oppido Avæ; florens Septembre—Novembre.

This plant differs from the first species in having much narrower and proportionally longer leaves: in other respects they are much alike. It abounds in milk. The flowers are large and beautiful, delightfully fragrant, and of a thick, fleshy structure: four or five are produced from a short peduncle, inserted on one side of the axil, and supported on longish, white, dotted pedicels. Calyx very small, under the broad retuse base of the corolla, divided into five ovate, obtuse, ciliate lobes. Corolla cup-shaped, white, with purple minute spots; lobes deeply separated from each other, ovate-oblong, obtuse, convex, and almost gibbous above, wrinkled and concave underneath. Column of fructification white, sharply five-keeled, naked, except at the very base, which is surrounded by a thick, fleshy, annular ring, which is slightly marked with five lobes, alternating with the corners of the column. Anthers ovate, obtuse, membranous, covering the five-cornered stigma. Pollen-masses very long, flat, cuneate, hanging down perpendicularly from the black, capillary, appendices of the retinacles, which are attached to the corners of the stigma in a very oblique, almost horizontal position.

Plate CLXIII. Fig. 1. Flower, two of the calycine lobes removed. 2. Column of fructification. 3. The same enlarged, all the divisions of the corona but one removed. 4. A detached stamen, with its division of the corona. 5. Pollen-masses and retinacle. 6. Follicle. 7. Seed.

THUNBERGIA HAWTAYNEANA. Tab. 164.

Scandens, lævis, glauca; foliis ovato-cordatis, obtusiusculis, subsessilibus, amplexicaulibus, coriaceis, integerrimis; floribus axillaribus, oppositis, tubo elongato, limbo patentissimo; seminibus semiglobosis. Wall. Tentam. Napal. vol. 1. p. 49. et 58.

Thunbergia erecta et *cordifolia*, Herb. Madraspatanum, et *T. cærulea*, Herb. Wightianum in Museo Amplissimæ Procurationis Britannicæ Indiæ Orientalis asservata.

Habitat in jugo Nilghiry dicto. In Horto Calcuttensi floret tempore frigido.

Frutex ramosa, volubilis. Rami graciles, tetragoni, parùm pubescentes, glauci, dichotomi, dilatato-subarticulati, ad divisuras et axillas foliorum pilosuli. Folia opposita, brevissimè petiolata, patentia, subapproximata, ovata, levitèr cordata, amplexicaulia, plana, acuta, integerrima, coriacea et firma, 2—3-pollicaria, utrinque opaca et admodùm glauca, præcipuè subtùs, ubi 5-nervia, nervis gracilibus, extimis obsoletis, minutìm reticulata. Petioli perquam breves, canaliculati; superiorum foliorum omninò desunt. Flores axillares solitarii, oppositi, pedunculati, magni, atropurpurei, valdè speciosi, inodori, foliis longiores. Pedunculus gracilis, villosulus, semipollicaris vel pollicaris. Calyx membranaceus, glaber, glaucus, reticulatus, spathaceus, compressus, subsecundus, pollicaris, e basi latiuscula attenuatus, obtusiusculus, apice bilobus, demùm divisus in *sepala* 2 lanceolata, plana, pollicaria. Corolla infundibuliformis; *tubus* levitèr curvus, pallidus, extùs pubescens, intùs flavus, calyce tertiò longior, sensìm ampliatus; *limbus* patentissimus, ferè æqualis, tubo plùs dimidiò brevior, laciniis suborbiculatis, retusis; *faux* magna et pervia, nuda, circularis. Stamina didynama, inclusa, glabra; *antherarum lobi* divergentes, acuti. Ovarium parvum, ovatum, *disco* carnoso, viridescenti insidens; *stylus* filiformis; *stigma* divaricato-bilobum, lobis latiusculis. Capsula pollicaris, rigida, basi subglobosa, indè attenuata in rostrum latum, acutum, utrinque sulco exaratum. Semina 2, hemisphærica, glabra, fusca, hinc plana, angustâ et profundâ cavitate exsculpta, magnitudinis seminis pisi majoris. Cotyledones hypogeæ, valdè inæquales; *dorsalis* nempè orbiculata, ferè plana, dorso excavato *ventralis*, quadruplò majoris recepta. Cætera ut in fructu *Thunbergiæ coccineæ*, Wall. loc. citato.

This beautiful species is so widely different from all the other *Thunbergias*, as to be easily discriminated. The leaves are of a rigid and leathery texture, of an ovate-cordate form, perfectly entire, nearly sessile, stem-clasping, and very glaucous. The flowers are very large, and of the most beautiful deep purple colour. In short, the shrub is one of the most desirable and ornamental plants imaginable.

Plate CLXIV. Fig. 1. Calyx. 2. Corolla.

PÆDERIA LANUGINOSA. Tab. 165.

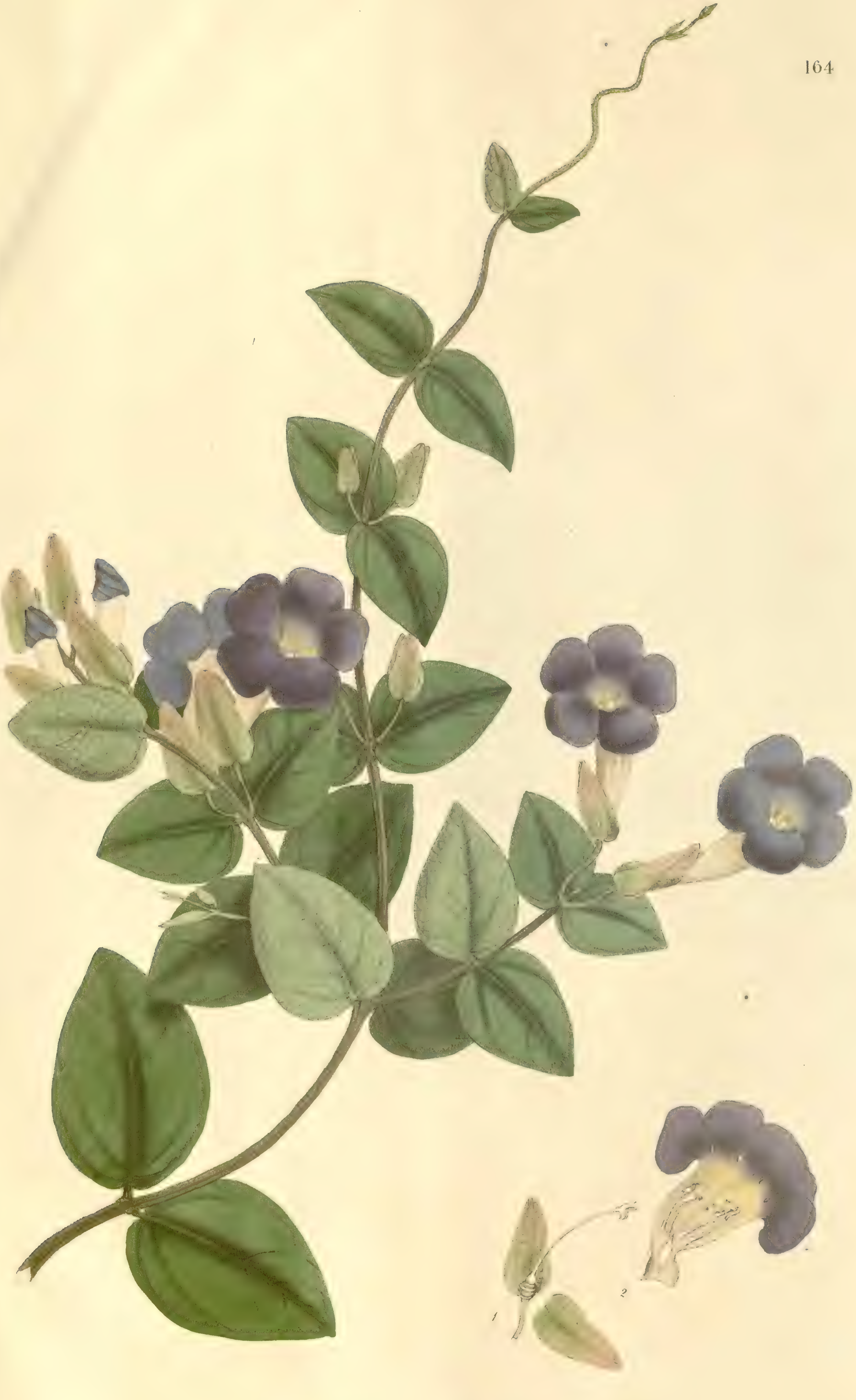
Volubilis, densissimè cano-villosa; foliis lato-ovatis, cordatis, acutis, subtùs niveo-tomentosis; paniculis nudis, sessilibus, axillaribus, terminalibusque, floribus extùs albo-tomentosis.

Crescit in sylvis Pegu prope Rangoon; juxta ripam Irawaddi ad Prome, Yenangheun, alibique. Floret Augusto et Septembre.

Frutex magnus et extensus, latè super alios frutices volubilis. Rami oppositi, cylindrici, uti folia subtùs, densè vestiti tomento copioso, mollissimo, cano. Folia opposita, subapproximata, patentia, ovato-cordata, integerrima, acuta, plana, 5-pollicaria, palmaria usque ad pedalia, sinu basis lato, lobis rotundis, suprà cano-villosa, subtùs densissimè tomentosa, dum juniora candida, nervis subalternis costâque elevatis crassisque, venis reticulatis. Petiolus carnosus, teres, villosus, folio dimidiò vel triplò brevior, suprà sulcatus. Stipulæ oppositæ, triangulari-lanceolatæ, acuminatæ, adpressæ, membranaceæ, pubescentes, emarcescentes. Corymbi axillares terminalesque, sessiles, inæquales, foliorum circitèr longitudine, cano-villosi, multiflori; paniculam ad apicem ramorum formantes magnam, oblongam, laxam. Pedunculi cylindrici, carnosi; *partiales* breves. Flores magni, tubulosi, ternato-fasciculati, brevissimè pedicellati, fœtidissimi, viridi-purpurascentes, tubo albo. Bracteæ ad basin pedunculorum pedicellorumque parvæ, lanceolatæ, carnosæ, mox emarcescentes. Calyx ovatus, carnosus, villosus; *laciniæ* ovatæ, obtusæ, ciliatæ. Corollæ *tubus* cylindricus, latus, calyce quadruplò longior, extùs albo-villosus, intùs *faux*que ampla, pervia atropurpurei, densè lanuginosi; *limbus* patentissimus, tubo tertiò brevior, plicato-5-lobus, suprà lævis viridis, æstivatione et paullò posteà purpureus; *lobi* 3-dentati, subtùs mediò albo-tomentosi; dentes obtusi, laterales in plicaturis abbreviati. Stamina inclusa; *filamenta* brevissima; *antheræ* lineares, erectæ, longæ, inæquales. Ovarium subrotundum, glabrum. Stylus brevis, filiformis, undulatus. Stigmata 2 stylo staminibusque longiora, undulata, filiformia, divergentia, acuta.

This fine species is very different from all the others in its superior size, the dense white hoariness with which it is covered, and its showy panicles of large green and purple flowers. These latter, however, are very fetid, which is also the case with all the green parts when bruised.

Plate CLXV. Fig. 1. 2. Flower, enlarged. 3. Corolla, opened. 4. Calyx and pistil.



Thunbergia Hawtayneana

Vishnupersaud del'
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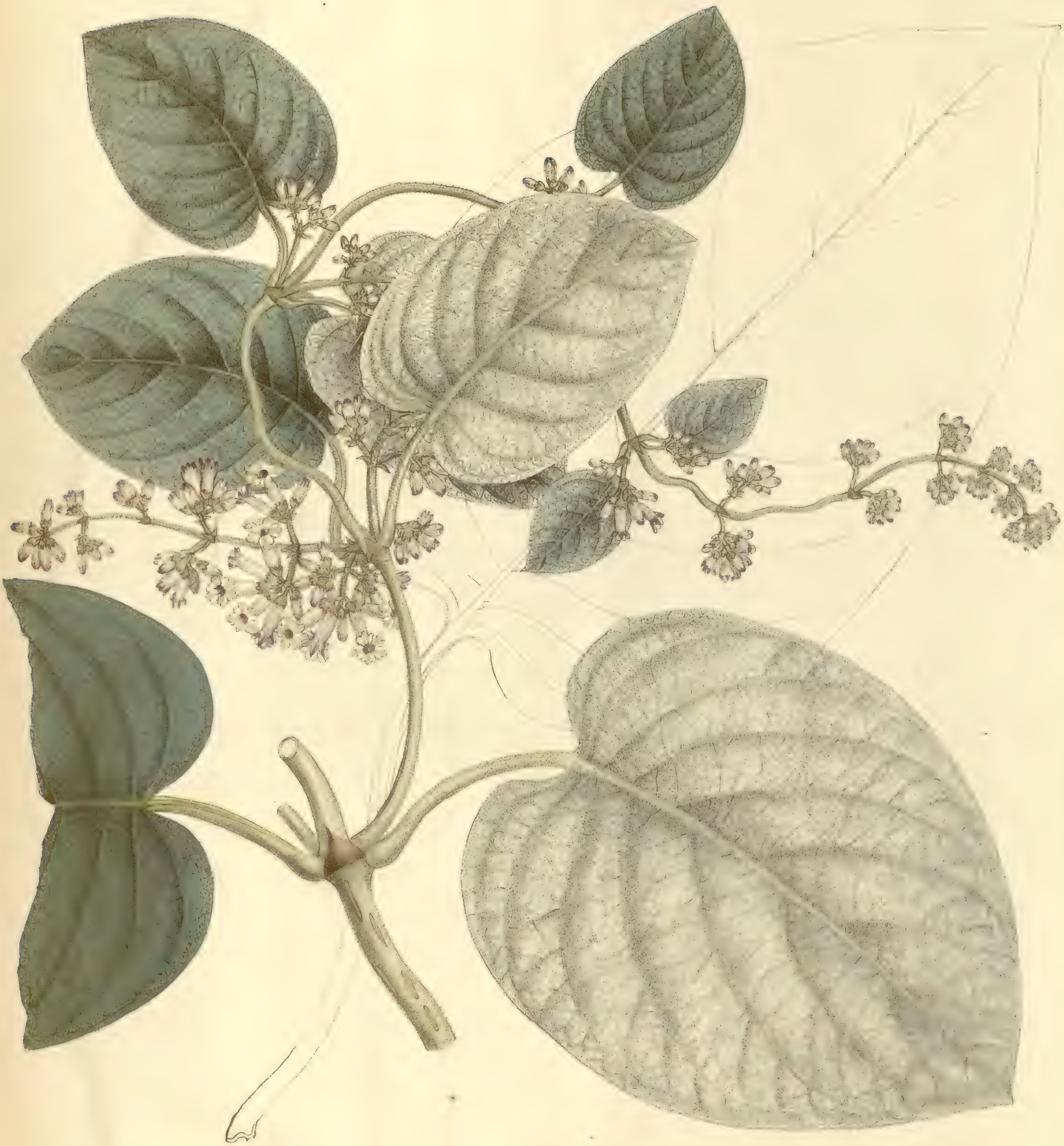

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M. Gauci lith

Paederia lanuginosa

CALANCHOE TERETIFOLIA. Tab. 166.

Foliis triangularibus, decompositis, pedato-tripinnatisectis, petiolis dilatato-subamplectentibus; floribus paniculato-corymbosis, numerosissimis.—*Haworth MSS.*

Crescit in monte Taong Dong dicta, haud ita procul ab oppido Avæ sita, florens Novembre. An etiam in Pegu prope Rangoon? In Horto Calcuttensi floret fine anni.

Herba, potiùs *suffrutex*, orgyalis, succulenta, stricta, lævis, *radice* fibris constante paucis, parùm ramosis, succulentis. Caulis valdè foliosus, sub florescentia prima simplex, deinceps infernè parùm ramosus, ut in omnibus speciebus hujus generis teres, basi satìs crassus, purpurascens, et foliorum emortuorum cicatricibus annulatus. Folia decomposita, tripinnata, valdè regularitèr decussata, opposita, parùm amplectentia, sæpiùs olivaceo-viridia, dodrantalia; *pinnæ* utrinque tres, pinnatæ; *lobi* lineares, subteretiusculi, acuti, suprà parùm canaliculati; *pinna terminalis* longè producta, caudato-elongata, curvato-descendens, extrorsùm integra; *folia superiora* conformia sed sensìm minora, desinentia in *bracteas* inferiores tripartitas vel rectiùs semipinnatisectas, supremas indivisas. Petiolus crassus, succulentus, convexus, suprà canaliculatus. Panicula corymbosa, densa, ovata, basi longiùs ramosa; *bracteæ extimæ* squamæformes, succulentæ, *Crassularum* in modum flores suffultientes. Flores racemulosi, 8 circitèr in singulo racemulo, secundi, pedicellati. Sepala 4, lineari-lanceolata, acuta, lineas 5 longa, basi imâ unita. Corolla hypocrateriformis, jasminea, flava; *tubus* deorsùm valdè dilatatus; limbi 4-fidi *laciniæ* stellatìm patentes, planæ, lanceolatæ, tubo dimidiò breviores. Stamina 12, quorum 4 medio tubo inserta, brevissima; 4 versus faucem majuscula, laciniis alternantia, parùm exserta; 4 *sterilia*, castrata, filiformia, longiuscula, inclusa, ex imo tubo corollæ, erecta, cum staminibus inferioribus sepalisque alternantia. Ovaria 4, oblonga, attenuata in *stylos* totidem breves; *stigmata* minuta, convexiuscula.—*Haworth MSS.*

I am indebted for the specific character and the description (partly derived from my own notes) of this and the next species to my worthy friend Mr. Haworth, whose indefatigable labours have thrown so much light upon the difficult and extensive family of plants to which the genus *Calanchoe* belongs.

I found this ornamental shrub on the mountains of Taong Dong, twenty miles from Ava; but it may perhaps also be a native of Pegu, although this is doubtful. It attains almost a man's height, and is easily distinguished at first sight by its very straight and rigid habit, and by its very regularly decussate leaves, which are tripinnate, with nearly cylindric, deeply channelled segments; only in the infant plant they appear entire, flattened, and lanceolate; very soon afterwards they entirely change their form. The flowers are of a bright yellow colour, very numerous, collected into a large, terminal, rounded and dense panicle.

Plate CLXVI. Fig. 1. A detached raceme of flowers. 2. Calyx, opened. 3. Corolla, opened. 4. Stamen. 5. One of the lower and largest leaves, natural size.

CALANCHOE VARIANS. Tab. 167.

Calanchoe varians, Haworth in Philos. Mag. & Ann. 1829. p. 302.

Habitat in Napalia. Etiam reperi ad ripam Irawaddi prope Yenangheun, in locis sterilibus petroleo scatentibus, florentem Septembre. Ab utraque regione in Hortum Calcuttæ introducta floret Novembre—Februario.

Suffrutex succulentus, valdè robustus, glaucus, 3—4-pedalis. Radix fibrosa. Caulis cylindricus, basi digitum crassus, hinc purpurascens, simplex, demùm basi ramulum unum alterumve irregularitèr emittens. Folia opposita, patentissima, decussantia, valdè crassa et carnosa, plana, glauca, obtusè serrulata; *inferiora* simplicia, ovata, basi subretusa, 4—5-pollicaria; reliqua 3-foliolata; *foliola* lanceolata, attenuato-acuta, 3—4- quin 6-pollicaria, subæqualia, foliorum supremorum angusto-lanceolata, ferè linearia, canaliculata, crenata. Petiolus *communis* crassus, suprà canaliculatus, subtùs convexus, basi valdè dilatatâ cum opposito caulem ferè totum amplectens, pollicaris vel 2-pollicaris; *partiales* breves. Panicula subcorymbosa, *Crassulæ* cujusdam speciei potiùs quàm *Cotyledonis* inflorescentiam æmulans, stricta, oblonga, infernè ramis aliquot erectis, longiusculis instructa, supernè ferè thyrsoidea. Bracteæ foliaceæ; inferiores 3-fidæ, foliis supremis subsimiles; mediæ subbifidæ; supremæ simplices, lineares, acutæ; sub floribus minutæ, squamæformes. Flores pedicellati, dispositi in verticillos densiusculos, inferiores remotos. Sepala 4, in culta planta rarissimè 5, linearia, acuta, apice levitèr patula. Corollæ 4-fidæ, in culta nunc 5-fidæ, flavæ *tubus* cylindricus, basi parùm dilatatus; *laciniæ* ovato-lanceolatæ, acutæ, tubo plùs dimidiò breviores. Stamina 8; summa series paullò exserta. *Stamina* 4 *sterilia* obsoleta (tam in culta quam in spontanea). Pistilla subulata, usque ad inferiorem staminum seriem elevata.—*Haworth MSS.*

I have found this strong and robust species both in Nipal and in the Burmese territories, near the petroleum wells at Yenangheun, on the left bank of the Irawaddi. In the Calcutta Garden, where the plant has been introduced from both those countries, it thrives remarkably well. An account of it has been published already by Mr. Haworth, in the Philosophical Magazine and Annals, N. S. Vol. IX. from a plant brought home by myself, which blossomed in

His Majesty's garden at Kew. I have of course adopted the specific name given to the plant by Mr. Haworth, although he politely offered to alter it to one I had suggested for it at the time of its discovery, and which was engraved on the plate long before I became aware of a name having been published already. I therefore request that the name *Calanchoe subamplectens*, in Plate 167, may be altered to *C. varians*.

Plate CLXVII. Fig. 1. Flower. 2. 3. Calyx and Corolla, opened. 4. Lower leaf, natural size.

NIOTA LUCIDA. Tab. 168.

Foliis oblongis; umbellâ terminali, erectâ, fructiferâ longè pedunculatâ, pendulâ; floribus octandris.

Habitat in sylvis prope Amherst oræ Martabaniæ, florens et fructus submaturos proferens mense Februarii.

Arbuscula omnibus partibus lævis. Ramuli graciles, laxiusculi, nutantes vel penduli, cortice glabro, fusco induti. Folia alterna, patula, approximata, oblonga, obtusè subacuminata, integerrima, basi acuta, 6—7-pollicaria, coriacea, suprà valdè lucida, subtùs ferè nitida, nervis capillaceis, remotis, subtransversis, ad marginem arcuato- et reticulato-anastomosantibus, vix elevatis, costâ gracili, venis reticulatis; aliquandò glandula una alterave parva versus basin folii. Petiolus gracilis, suprà planus, semipollicaris. Stipulæ nullæ. Flores pauci, dilutè flavicantes, dispositi in umbellam terminalem ramulorum levitèr nutantem. Pedunculus *communis* gracilis, rubicundus, subcarnosus, compressiusculus, 2-pollicaris, fructiferus elongatus; *partiales* circitèr 6, semipollicares, teretes. Bracteæ aliquot parvæ, lanceolatæ ad basin pedunculi communis et infra umbellam. Calyx brevissimus, 1-phyllus, obtusè 4-dentatus. Petala 4, dentibus calycis alternantia, patentissima, pollicaria, oblonga, obtusa, basi parùm angustata et canaliculata, in alabastro cylindrico, puberulo imbricantia. Stamina 8, patentia, seorsìm glandulæ minutæ, concavæ, carnosæ insidentia, longitudine ferè petalorum; *filamenta* filiformia; *antheræ* erectæ, conicæ, apice obtuso poro uno vel duobus dehiscentes? Ovarium pedicello carnoso, brevissimo insidens, parvum, subrotundo-quadrangulare, 4-loculare, 4-spermum; *ovula* axi adfixa. Stylus simplex, filiformis, longitudine filamentorum. Stigma acutum. Fructus immaturi laxè penduli, umbellati, pauci, læves, lucidi, compressi, obliquè obovati, vertice hinc obtusè cuspidati, margine altero gibbo, compresso, altero (interiore) latiusculo, sulcato, lateribus levitèr ventricosis, reticulatis, 1-loculares, 1-spermi. Semina *matura* haud visa.

There can be no doubt that our plant is a congener of Rheede's *Karin-Njota* and of Vahl's *Vitmannia elliptica*, which the learned Dr. Blume has with propriety united into one species, which he calls *N. Lamarckiana*, placing the genus, with M. de Jussieu, in the family of *Simarubeæ*. (Bijdr. p. 251 and 259.)

Plate CLXVIII. 1. Flowers. 2. The same, dissected. 3. Ovary.

VIBURNUM STELLULATUM. Tab. 169.

Viburnum stellulatum, Wall. in Decand. Prodr. vol. 4. p. 327.

Incolit sylvas vallis Napaliæ et montium circumjacentium, florens sub pluviis, fructiferum fine anni. In Kamaon legit Robertus Blinkworth.

Arbuscula erecta, 12—20-pedalis, trunco crassitie brachii, ramis teretibus, gracilibus, subscandentibus, griseis, junioribus pube densâ, stellatâ cinereo-villosis. Folia opposita, patentia, ovata, longè acuminata, levitèr cordata, aliquandò basi rotundata, nunc ovato-lanceolata, extrorsùm grossè et acutè serrata, cuspidibus subulatis, callosis; versus basin subintegerrima, 3—5-pollicaria, coriacea, suprà rugosula, saturatè viridia, pubescentia, subtùs pube copiosâ, stellatâ, laxiusculâ, molli obtecta, obliquè nervosa, inter nervos subtransversè venulosa. Petiolus teres, pollicaris, suprà parùm sulcatus, basi cum opposito petiolo ramum lineolâ elevatâ amplectens. Corymbus terminalis, magnus, plano-patentissimus, pedunculatus, diametrum dodrantalem ad spithamæum emetiens, stellato-tomentosus, decompositus. Pedunculi teretes, divaricati, basi articulati; primarii pollicares, reliqui sensìm breviores. Bracteæ lineares, parvæ, deciduæ. Flores parvi, albi, terni, brevè pedicellati, odoris ingrati. Calyx minutus, tomentosus; *laciniæ* lineares, acutæ. Corolla lævis, æqualis, infundibuliformis; *laciniæ* ovatæ, obtusæ, apice recurvæ. Stamina corollâ parùm longiora, patentia; *antheræ* majusculæ, ovatæ, fuscescentes. Ovarium turbinatum, suffultum *bracteolâ* lanceolatâ, ciliatâ, caducâ. Stylus brevis, carnosus, parùm complanatus. Stigmata 2 vel 3, subulata. Bacca ovata, compressa, coccinea, lævis, utrinque sulcata.

Plate CLXIX. Fig. 1. 2. Flowers. 3. Calyx. 4. Corolla.

Calanchoe teretifolia

Vishnupersaud del.
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M. Gauci lith.

Kalanchoe subamplectens

Vishnupersaud del.

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M. Gauci lith

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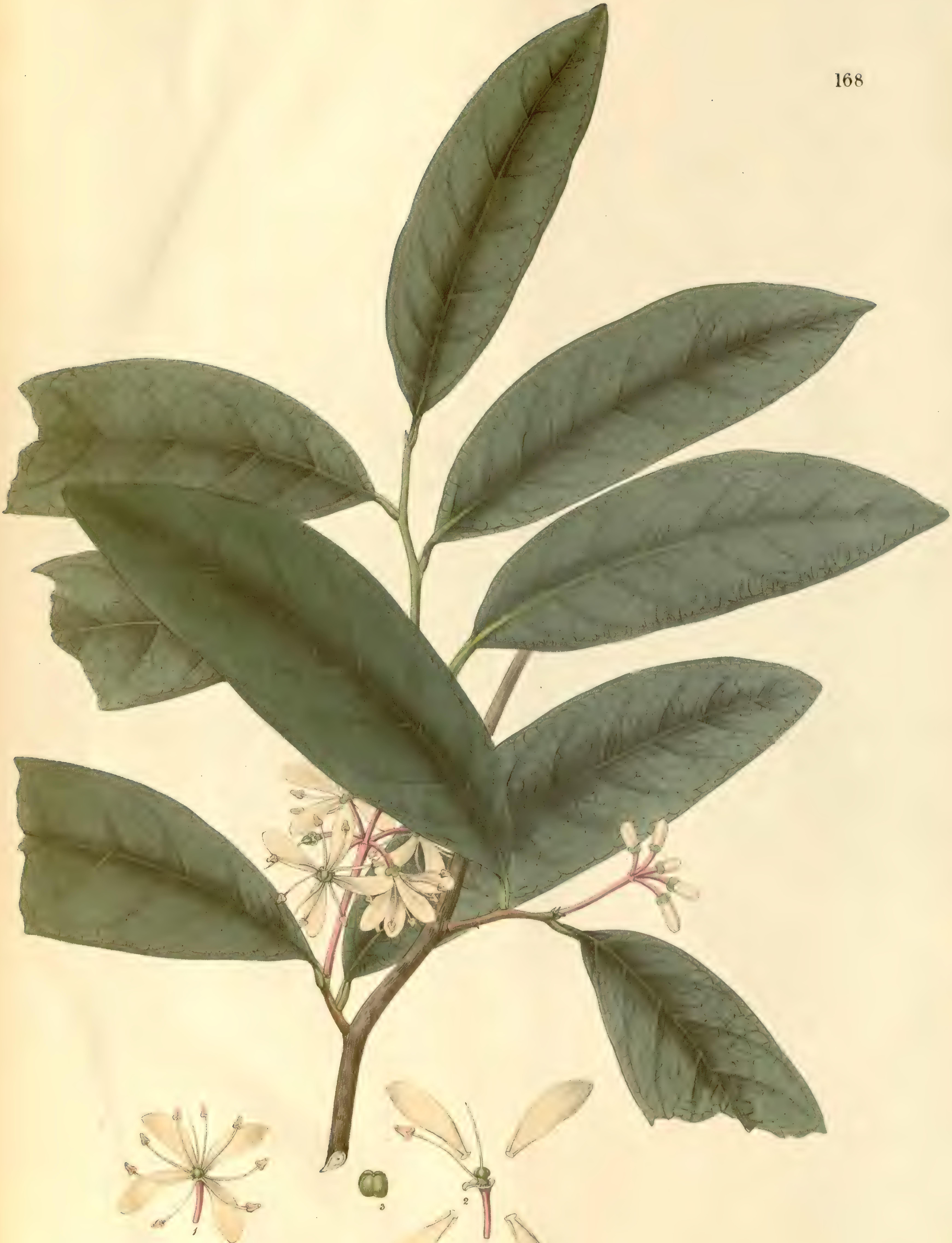

[illegible] del.

Printed by Engelmann, Graf, Coindet & Co.

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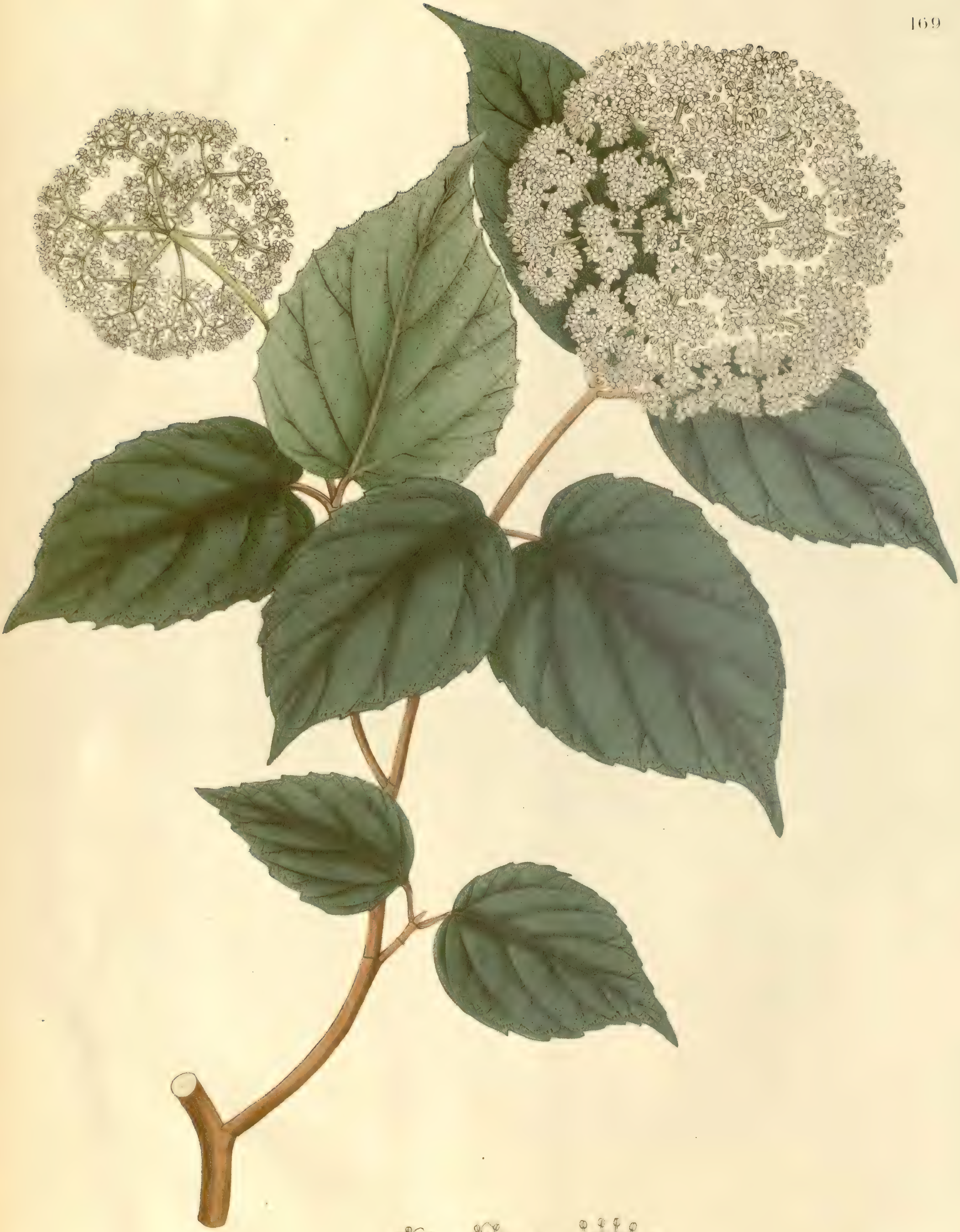
Niota lucida



Gorachand delt

M Gauci lith

Viburnum stellulatum.

UNCARIA PILOSA. Tab. 170.

Uncaria pilosa, Roxb. Flor. Ind. vol. 2. p. 130.

Habitat in montibus Napaliæ et Kamaon, florens mensibus Aprilis et Maii. In sylvis Chittagong, *Roxb.*

Having given an account of this large shrub in Roxburgh's work, I shall confine myself here to a few remarks on the structure of the fruit, which has been subsequently sent to me from Kamaon by Robert Blinkworth. *Capsules* very numerous, densely collected into a large globular head, which measures from 2 to 2½ inches in diameter; they are ovate-clavate, short-pedicelled, hairy and ribbed, about 5 lines long, and crowned with the narrow-linear, longish laciniæ of the calyx. *Seeds* very small, round-ovate, smooth, terminated at each end by long membranous linear wings, the lower one of which is bifid.

Plate CLXX. Fig. 1. Peduncle and bracts, with a head of unexpanded flowers. 2. 3. Flower. 4. The same, opened.

CONVOLVULUS WIGHTII. Tab. 171.

Frutex volubilis, mollitèr ferrugineo-pilosissimus; foliis rotundato-cordatis, acutis, trilobis, suprà sericeo-villosis, subtùs niveo-lanuginosis, nervis reticulatis, discoloribus; floribus subcapitatis, longè pedunculatis, axillaribus; foliolis calycinis bracteisque elongato-lanceolatis, pilosis.

Convolvulus lanuginosus, Herb. Heynean. (haud Vahlii.)

Incolit montes Nilghiry dictas, ubi detexerunt domini Wight et Noton.

Frutex satìs magnus, volubilis, ramosus, densè obsitus pilis patentibus, ferrugineis, mollibus; omnes partes recentes ferrugineò villosissimæ. Folia alterna, subdistantia, interstitiis sæpiùs breviora, patentia, subrotundo-cordata, 3- vel obsoletè 5-loba, summa nunc ferè integra, 3—6-pollicaria, suprà saturatè viridia, rugosula, pilis densis, sericeis, ferrugineis, decumbentibus obsita; subtùs niveo-lanuginosa, subarachnoidea, 7-nervia, reticulata, nervis nudiusculis, viridibus; *lobi* acuti, vix repando-crenulati, intermedius ovatus, maximus; *folia novella* densissimè vestita, ferè alba. Petiolus cylindricus, longitudine circiter folii, valdè pilosus. Stipulæ nullæ. Pedunculus axillaris, solitarius, longitudine varius, petiolum sæpiùs bis terve superans, apice gerens fasciculum subcapitatum, involucrato-bracteatum *florum* 3—7 magnorum, ex roseo purpurascentium, brevè pedicellatorum. Bracteæ longæ, lineari-lanceolatæ, acuminatæ, pilosissimæ; duæ involucriformes, patentes, pollicares infra capitulum, tresque infra singulum *calycem*, cujus *foliolis* inæqualibus, villosissimis simillimæ. Corolla infundibuliformis, sesquipollicaris, extùs villosa; *limbus* patens, ferè integerrimus, tubo longior. Filamenta inæqualia, ciliata, basi dilatata; *antheræ* lineares, albæ. *Ovarium* circumdatum *disco* carnoso, undulato; *stylus* filiformis; *stigma* constans lobis 2 globosis, papillosis, rufuscentibus. Capsula magnitudine pisi majoris, globosa, lævis, 2-locularis, 4-sperma. —*MSS. Wightii.*

This elegant and curious shrub was introduced in 1826 into the Calcutta Garden, from the Nilghiry, by Dr. Wight, to whom I am indebted for the detailed description given above. The plant, both in its wild and cultivated state, is abundantly covered with soft and spreading long hairs: the leaves are large, very soft and villous, somewhat rugose above; underneath they are covered with a white and dense tomentum, except along the reticulated nerves, which are almost naked, and therefore retain their green colour; they resemble in some degree the leaves of several of the Indian *Rubi.* The flowers are large, of a purplish rose-colour, a few collected in long-peduncled, involucred, axillary heads.

Dr. Wight has lately come back to this country on a temporary visit of a few years, having brought with him an herbarium, collected by himself in various parts of the peninsula of India, amounting to between 3000 and 4000 species, and comprising nearly 100,000 beautifully preserved specimens. This stupendous herbarium he intends distributing among the principal public and private collections throughout Europe, confiding at the same time the publication of the several families to a number of distinguished botanists, in the manner adopted by the Honourable East India Company with respect to their collections. It would be altogether needless to offer the slightest comment on an act of such unparalleled generosity and disinterestedness on the part of a private individual; but I beg to be allowed to express the sincere gratification which I feel in simply announcing the intention of my highly esteemed friend and fellow-labourer, wishing him health and strength both to accomplish that object, and to publish his valuable botanical researches.

Plate CLXXI. Fig. 1. Calyx. 2. The same, dissected. 3. Corolla.

ACANTHUS VOLUBILIS. Tab. 172.

Fruticosa, volubilis, lævis, inermis; foliis oblongo-obovatis, integerrimis.

Aquifolium indicum, fœmina, Rumph. Amb. vol. 6. p. 163. tab. 71. fig. 2.?

Crescit in æstuariis Gangis et fluminum Martabaniæ, ubi floret sub pluviis. Ad litora æstuariorum Javæ et insularum Moluccarum, *Rumphius.*

Frutex 2-pedalis, lævis. Rami subdichotomi, volubiles, cylindrici. Folia obovata, vel oblongo-obovata, obtusa, integerrima, basi attenuata, patentia, opposita, interstitiis longiora, inferiora subterna, 3—5-pollicaria, subcarnosa, suprà convexa, lucida, subtùs pallida, costâ elevatâ, nervis remotis, oppositis, subtransversis, ad marginem arcuato-anastomosantibus, subavenia. Petiolus unguicularis, suprà sulcatus. Spica terminalis. Flores magni, ex albo dilutissimè lutescentes, numerosi, oppositi, approximati, sessiles, *spicam* formantes terminalem vel axillarem oblongam, 6-pollicarem. Pedunculus *communis* brevis, uti *rachis* cylindricus. Calyx 4-phyllus, inæqualis, suffultus *bracteâ* oblongâ, ciliatâ, deciduâ; *foliola* lanceolata, acuta, concava. Corolla pollicaris; *tubus* brevissimus, gibbosus; *labium* magnum, recurvato-patentissimum, 3-lobum; *lobi* rotundati, parvi, intermedius lateralibus minor. Stamina didynama; *antheræ* magnæ, nutantes, loculis anticè cano-barbatis.

Plate CLXXII. Fig. 1. Flower. 2. Calyx, dissected. 3. Corolla.

PYRUS INDICA. Tab. 173.

Umbellulis sessilibus, paucifloris; foliis ovatis vel ovato-cordatis, (in juniore planta lobatis,) acutis, serrulatis, glabris; unguibus petalorum calyce brevioribus; stylis basi villosis.—*MSS. Colebr.*

Habitat in montosis Sillet Bengalæ orientalis confinibus, florens Martio, fructifera sub pluviis.

Arbor erecta, parva, cortice fusco. Rami patentes. Folia sparsa, glabra, ovata, vel ovato-cordata, acuta, argutè serrulata, 2—3-pollicaria, in plantis novellis lobata. Petiolus teres, villosus, semipollicaris. Stipulæ filiformes, longitudine petiolorum. Umbellæ axillares, simplices, sessiles, paucifloræ. Pedunculi villosi, petiolis longiores, *bracteis* suffulti stipulis simillimis. Flores albi, 3 vel 4 in singula umbella. Laciniæ perianthii 5-partiti ovatæ, acuminatæ, utrinque villosæ. Petala ovata, patentia, unguibus calyce brevioribus. Stamina 30—50, corollæ longitudine. Ovarium ovatum, villosum. Styli 5, basi villosi, cæterùm glabri, clavati, omninò distincti. Pomum rotundato-ovatum, basi levitèr retusum, vertice vix depressum, glabrum, e viridi flavum, maculis aurantiacis conspersum, 2-pollicare.

For the above description, and for the drawing from which the engraving was made, I am indebted to Mr. Colebrooke, who observes, that the fruit has an austere taste, in a less degree however than the crab-apple of England, with some flavour of the quince.

Plate CLXXIII. Fig. 1. Ripe fruit. 2. 3. The same, opened. 4. Leaf of the young plant.

QUERCUS SEMICARPIFOLIA. Tab. 174.

Foliis obovato-oblongis, obtusis, indivisis, integerrimis, undulatis, basi retusis, subtùs stellato-pubescentibus, nervis costâque valdè exstantibus; fructibus axillaribus terminalibusque, solitariis vel geminatis, subsessilibus, glande ovatâ, umbonatâ, lævi, cupulâ imbricato-squamosâ, villosâ duplò longiore.

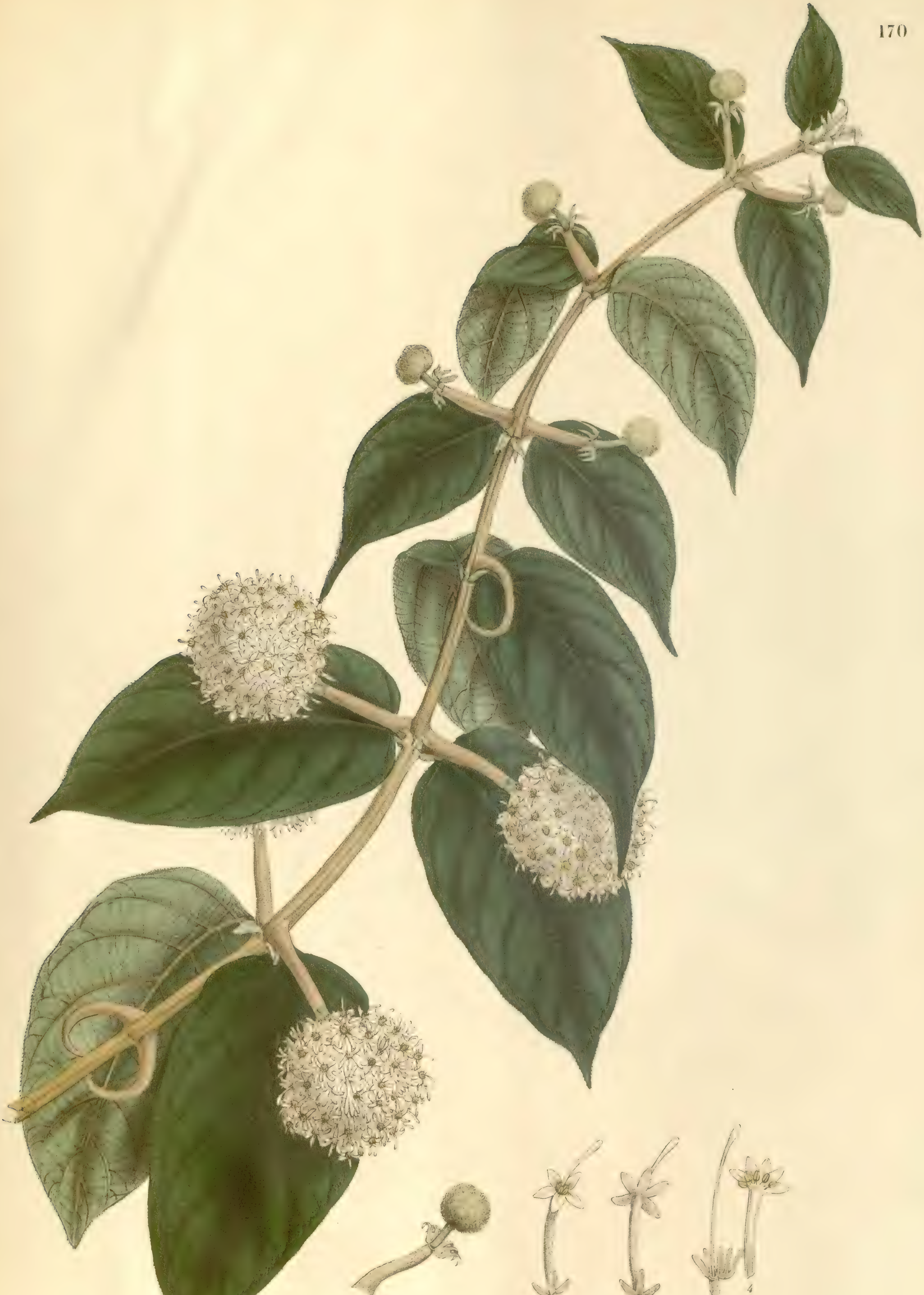
Quercus semicarpifolia, Smith in Cyclopædia Reesiana, in loco.

Quercus Banja, Herb. Hamilt. e Napalia.

Nomina Napaliensia, *Ghisee* et *Cusroo.*

Crescit in montibus altissimis Napaliæ, florens mense Aprilis, fructifera Septembre. E Kamaon misit Robertus Colquhoun, Baronetus.

This noble tree has been well described by the late illustrious President of the Linnean Society, from specimens collected by Dr. Hamilton; but as these had no fructification, I shall here add an account of it. The male flowers form slender, crowded, flaccid and pendulous tomentose aments, occupying the apex of the new branches, and



Gorachand del^t

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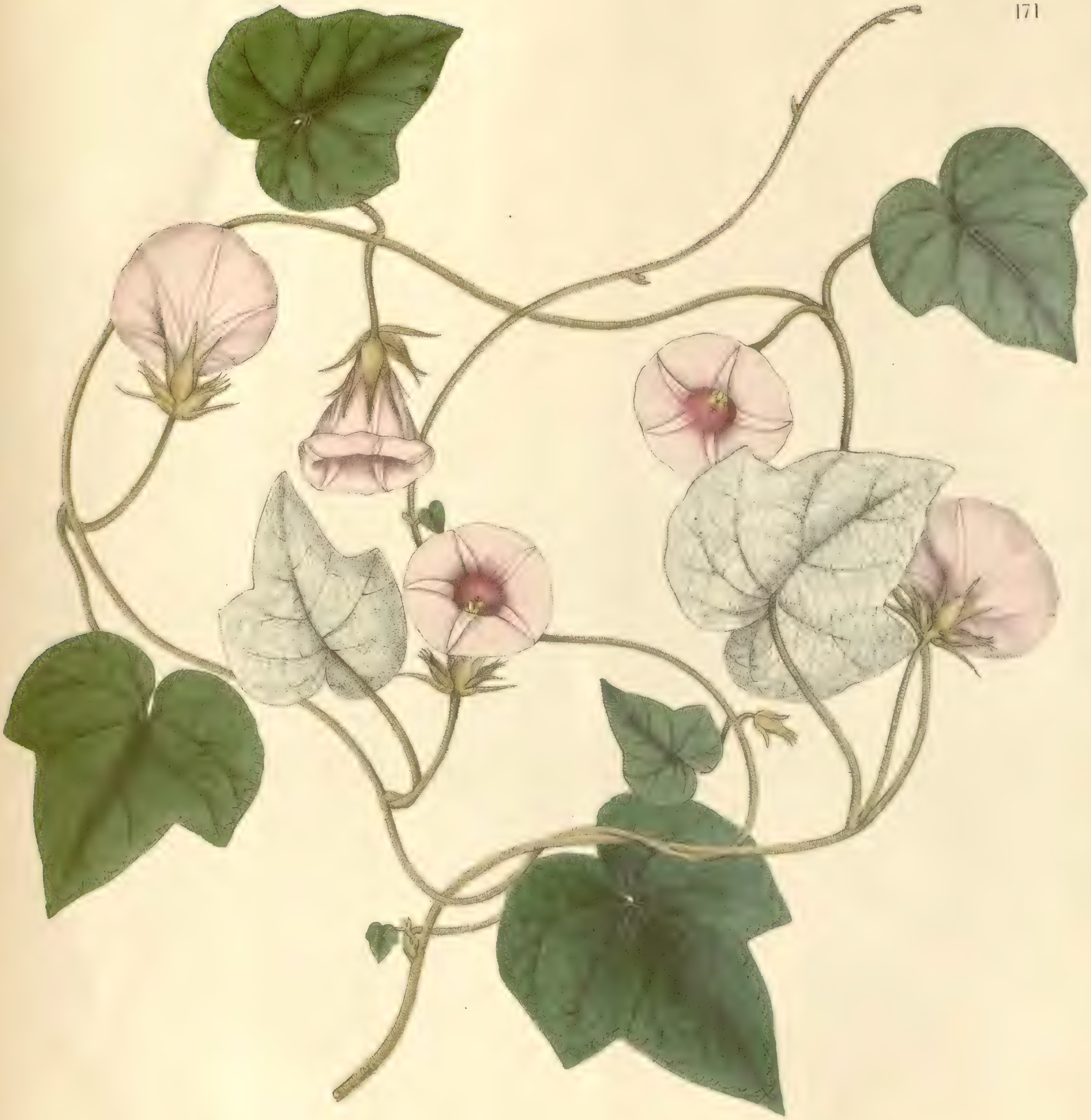
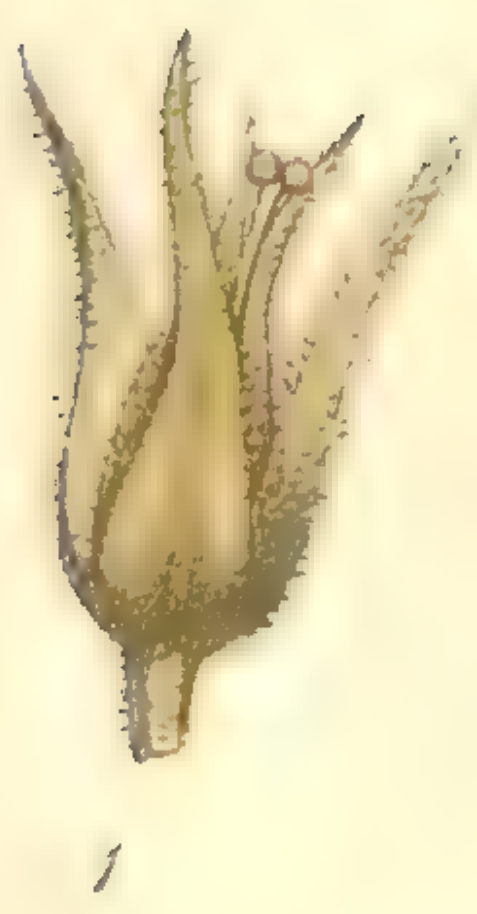
M. Gauci lith

Uncaria pilosa





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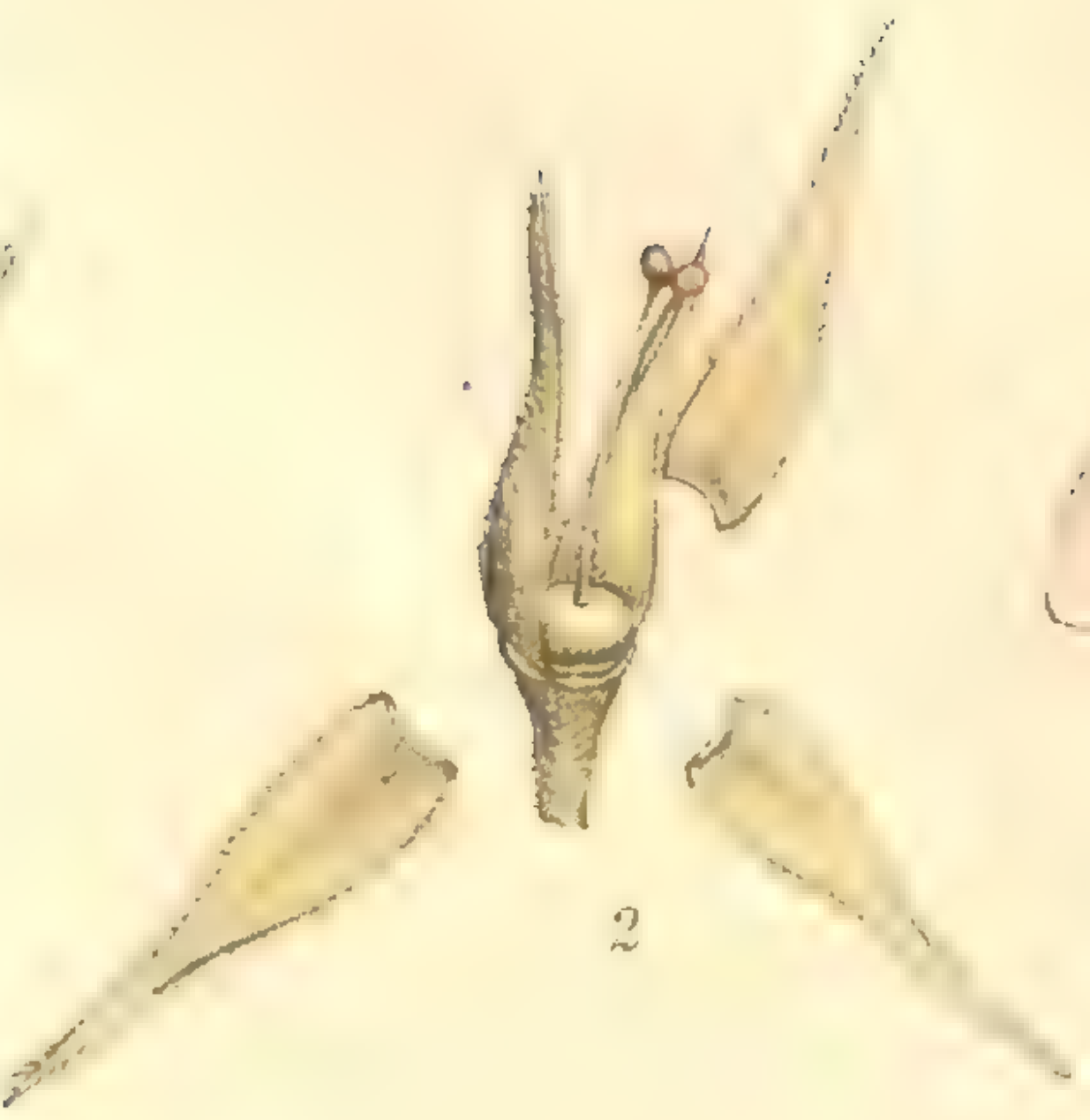

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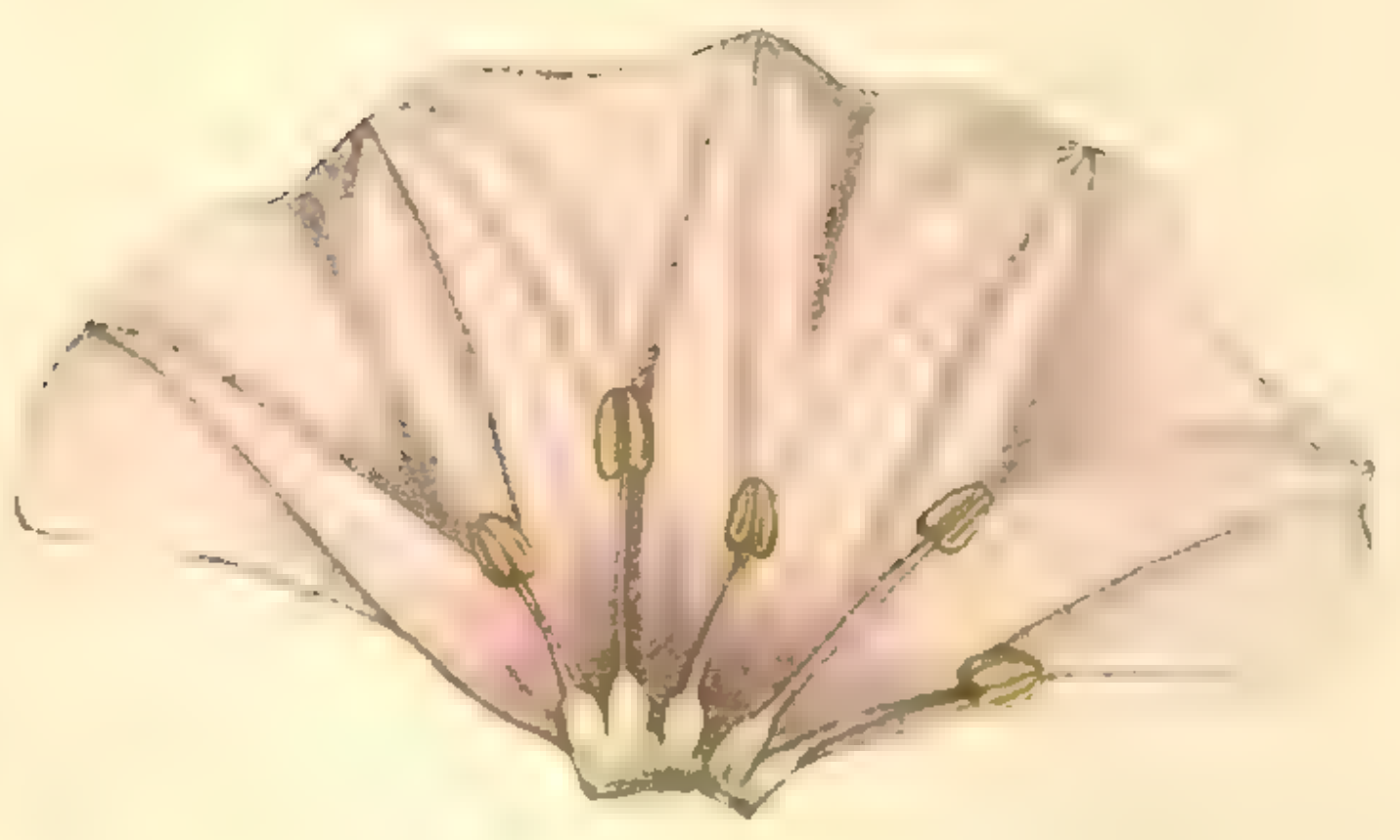

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Convolvulus Wightii

Vishnupersaud del.

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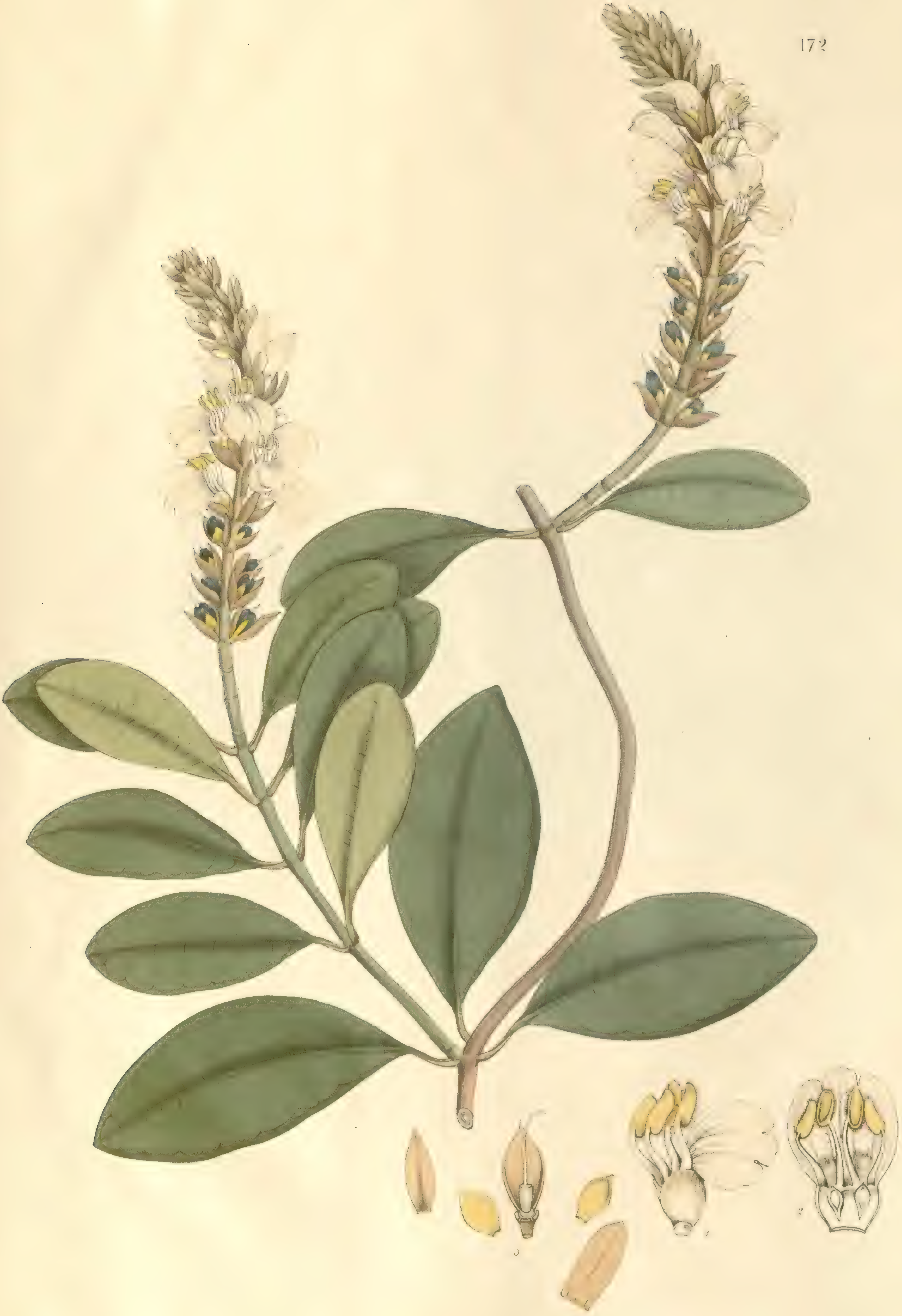

Acanthus volubilis

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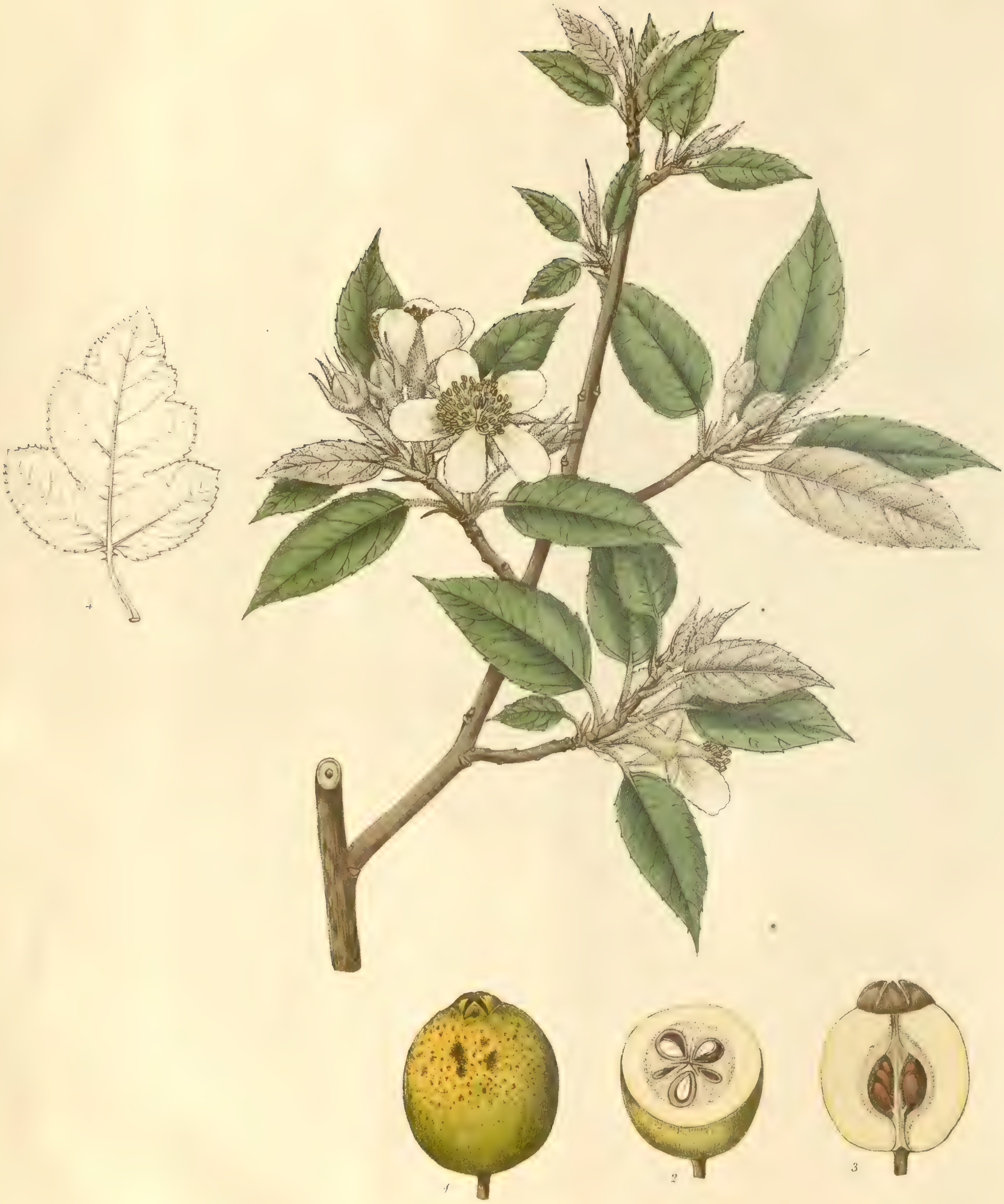
Gorachund del^t

M Gauci lith



Pyrus indica.

Gorachand delt.
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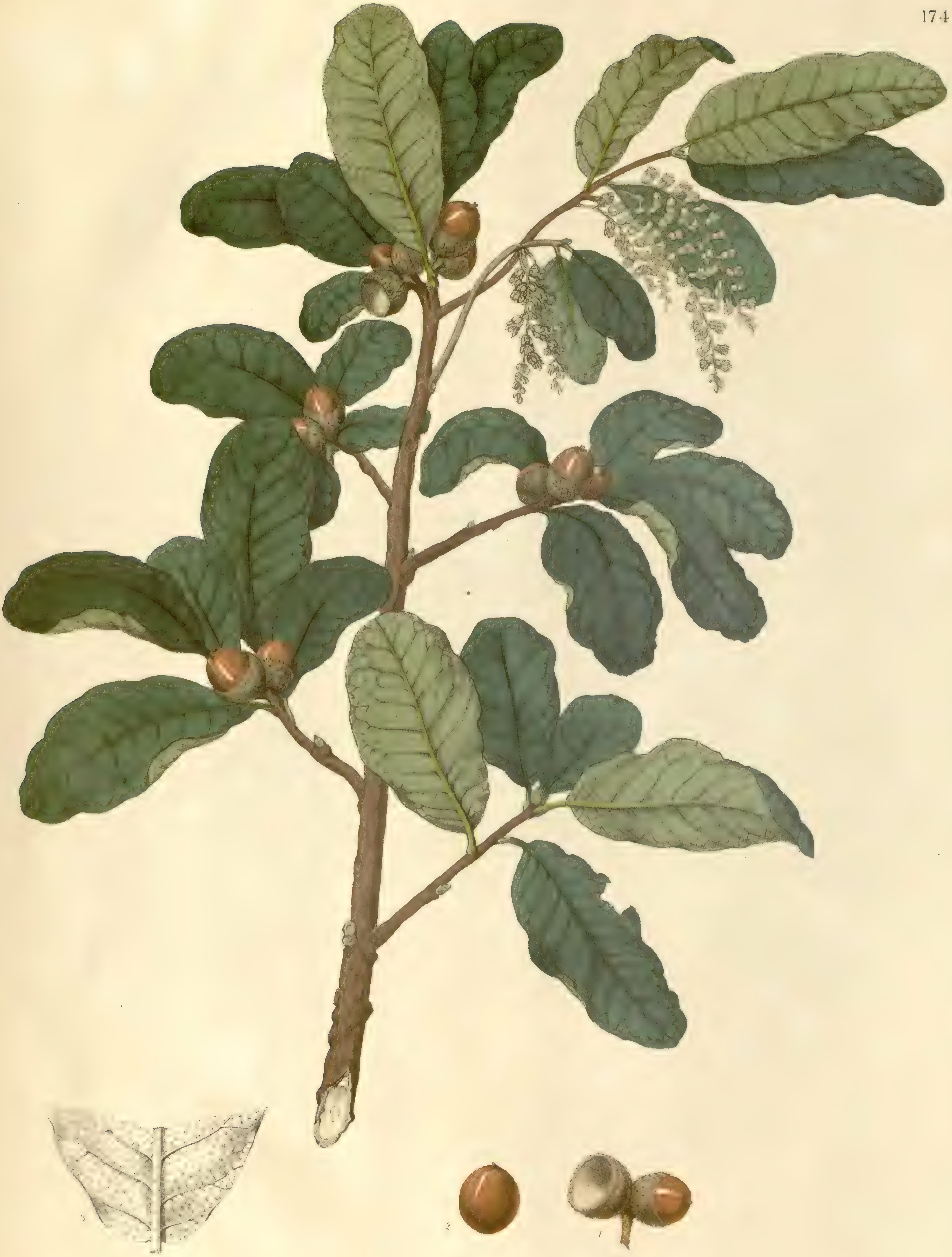

Quercus semecarpifolia.

M. Gauci del^{t}
Printed by Engelmann, Graf, Coindet & Co.
M. Gauci lith

measuring three or four inches in length. The acorns are axillary and terminal, mostly solitary, though sometimes geminate, oval, shining, brown, smooth, about an inch long, terminated by a short columnar style, and supported by an hemispherical cup, about half its size, having a sharp and entire circular orifice, with the outer surface densely tomentose, and covered with numerous, small, lanceolate, acute, imbricate scales. All the young parts, as well as the male inflorescence, the under surface of the leaves, and the cup, are covered with a copious, stellate, loosely attached tomentum. The leaves in young trees are more or less spinous-dentate. The tree inhabits the summit of lofty mountains, constituting, together with the common Nipal *Rhododendrum*, the chief forests, and attaining a gigantic size. It measures frequently in height from eighty to a hundred feet, with a girth of the stem, at six feet above the ground, of fourteen to eighteen feet; I have met with individuals of far greater dimensions on the summit of Sheopur. The wood is much esteemed by the natives, who employ it for various purposes of building, and for making bedsteads.

Plate CLXXIV. Fig. 1. 2. Acorns. 3. Part of the underside of a leaf, showing the stellate tomentum.

ARDISIA HYMENANDRA. Tab. 175.

Ardisia hymenandra, Wall. in Roxb. Flor. Ind. vol. 2. p. 282.
Habitat in montosis Sillet contiguis, ubi detexit et in Hortum Calcuttensem introduxit De Silva. Floret Martio.

Having given a detailed account of this handsome shrub in Roxburgh's work, it is unnecessary to repeat it here. The young leaves are elegantly veined with white stripes, and they are at all periods marked with numerous minute dots, intermixed with a few large semitransparent spots.

Plate CLXXV. Fig. 1. Flower-bud. 2. 3. Flower. 4. Calyx. 5. Anthers.

TETRADENIA LANUGINOSA. Tab. 176.

Foliis oblongo-cuneatis, acuminatis, triplinerviis, subtùs glaucis, floribusque lanuginosis. *Nees ab Esenbeck*, infrà.
Habitat in sylvis vallis Napaliæ, florens et fructifera Februario et Martio.

Arbor admodùm procera. Ramuli obtecti cortice cinerascente, scabro, apice ferrugineo-villosi. Gemmæ elongatæ, cylindricæ, sericeo-villosæ, fuscæ, *squamis* adpressis, ovatis, obtusis, ciliatis. Folia sparsa, nunc subverticillata, approximata, patentia, cuneato-oblonga, acuminata, integerrima, deorsùm attenuata, basi acuta, submembranacea, 7—9-pollicaria, suprà lucida, lævia, subtùs glauca, pilisque valdè copiosis, mollissimis, ferrugineis vestita, triplinervia, nervis gracilibus elevatis, quibusdam ex intermedio alternis, obsoletè venulosa; *novella* densè lanuginosa, sericea. Petioli teretes, villosi, suprà parùm sulcati, ferè pollicares. Umbellæ numerosæ, laterales, globosæ, *pedunculo* brevi, crasso suffultæ, compositæ ex *umbellulis* pluribus, 5-floris. Bracteæ lanceolatæ, concavæ, ferrugineo-villosæ, caducæ. Flores dilutè flavicantes, odorati, villis longis obsiti. Perianthium 4-partitum; *laciniæ* lanceolatæ, acutæ. Floris *masculi stamina* 5—8, perianthio longiora, inæqualia, erecta. Antheræ carnosæ, ovatæ, quadriloculares; loculorum par superius introrsùm, inferius lateraliter positum, ita ut antheræ a dorso visæ biloculares videantur; *valvulæ* lineari-lanceolatæ. Glandulæ 2 capitatæ ad basin utrinque filamentorum duorum interiorum. Pistillum ut in fœmineo, sed ovarium absque ovuli rudimento. Flos *fœmineus* masculo paullo minor. Ovarium ovatum, villosum, 1-loculare, ovulo pendulo, cylindrico. Stylus teres, lateraliter parùm deflexus; *stigma* magnum, peltatum, vertice planum. Filamenta nuda plura.

This is one of the finest trees in Nipal. Its leaves are large and of an elegant form, covered on the under surface with long extremely fine and soft ferruginous hairs. The wood is considered strong and durable by the inhabitants of Nipal, and as such employed for a variety of carpenters work.

It is with peculiar satisfaction that I feel myself enabled to enrich this work with the following most interesting and learned account of the family to which this tree belongs. It is from the pen of my highly esteemed friend Professor C. G. Nees von Esenbeck, of Breslau, President of the Imperial Academy Naturæ Curiosorum, to whom I take this opportunity of offering my warmest and best acknowledgments.

Plate CLXXVI. Fig. 1. 2. Male flowers. 3. The same, opened. 4. Stamens, viewed from two sides. 5. Anthers, magnified. 6. A fascicle of female flowers. 7. 8. Female flower, detached. 9. The same, opened. 10. Ovary. 11. Ovary, opened.

LAURINÆ INDIÆ ORIENTALIS.

Exposuit C. G. Nees ab Esenbeck, *Prof. Vratisl. Acad. Cæsar. Leopold. Carol. Nat. Cur. Præses.*

1. Ordines plantarum, certe qui non arte facti, sed a natura creati, ob summum partium concentum integri videantur et simplices necesse est, ut idem fere sit, genus esse statuas an ordinem.

2. Quæ quidem genera principalia, patribus nostris ab ipsa natura revelata, deinceps aucta formarum singularium et observationum multitudine, animo perfecte comprehenduntur, eoque in omnes partes penetrante ut corpora viva animantur; quod ubi evenit *character* seu *nota* generis in *typum ordinis* evolvitur, scilicet summa partium, et quæ istis inhæreant propriæ dispositiones ac formæ, quantum pateant, quibus limitibus sint comprehensæ, præfiniuntur.

3. Genus, ad gradum ordinis seu familiæ promotum, jam intrinsecus pervestigandum, utrum formarum et partium concentus universalis in partes secedat suis quidem finibus circumscriptas, sed altiore quadam conspiratione junctas, an totus et integer omnium partium quietâ nec usquam interruptâ, evolutione existat.

4. Typi universalis *partes*, animo comprehensæ, *genera* sunt ordinis naturalis; neque ea vero etiam systematis artificialis genera necessario habenda esse, constat; his enim leges naturæ *instinctu*, non humani artificis *manu*, scribuntur. "Generis, ad familiæ gradum promoti, sectiones jam *genera* appellanda sunt."—DeCand. Théor. Elém. p. 220.

5. Ejusmodi genera "distributiones sunt familiarum sive ordinum methodicæ." DeCand. l. c. p. 217. Hæ autem non ad unam partem vel ad paucarum conjunctionem, sed ad universi corporis congruentiam sunt effingendæ. Omnis pars tamen, quæ congruentiam *significat*, tametsi concinnitas ipsa neque in ista sola parte, neque in ulla usquam per se spectata quærenda sit, *characterem* vel sigillatim vel cum aliis conjuncta efficere, vel accedere characteri eumque firmare et illustrare potest. Qui partibus fructificantibus floribusque solis inhærent characteres, cum generis non sint *fundamenta*, sed *signa* tantum, levioris sæpe momenti videri, necesse est.

6. Quodcunque autem genus naturale, cum intra familiæ spatium et secundum ejus typum consideretur, vel absque flore et fructu, atque adeo ex qualibet discerpta parte, ab observatore gnaro dignoscitur.

7. Exemplo sunt: Proteaceæ, Epacrideæ, Goodenoviæ, cet. *Brownianæ;* Coniferæ *Richardianæ;* Melastomaceæ, Leguminosæ *Candolleanæ;* Umbelliferæ *Kochianæ;* Synanthereæ pleræque *Cassinianæ;* Amarantaceæ et Palmæ *Martianæ;* Gramineæ *Linkianæ*, alia ut taceam.

8. Quo angustiores autem formarum in familia aliqua complexarum fines et numeri, eo fallacior typi *universalis*, omne, ut ita dicam, partium studium supprimentis vel devorantis species, inattento vel inexercitato oculo apparens. Accuratius autem inspicienti partium constituentium notæ inveniuntur, neque revera minus diversa *esse* genera talium ordinum, sed *videri* tantum minus diversa esse cognoscitur.

9. *Laurinarum* ordo e simplicissimis exstruitur formis, partiumque distributione simplicissima utitur. Tum ea vero, quæ propria sunt ordini, maximeque insignia, ut v. c. antherarum et staminodiorum conformatio, et intra ordinis fines parum diversa, et, ubi differunt, nec summi ponderis neque satis stabilia.

10. *Truncus* omnium, si *Cassytam* filiformem herbaceamque excipis, lignosus, e stratis concentricis. Tubus medullaris amplus vel mediocris, temporis progressu citius lentiusve exolescens. Fibræ ligneæ rudes, tubis porosis amplis divisæ, pallescentes. Corticis strata vel insipida, vel adstringentia, vel odoris et saporis aromatici, Cinnamomi, Caryophyllorum, Piperis, Camphoræ, vario modo et gradu mixti vel puri, fortioris vel debilioris, dulcedine sæpe admixtâ et mucilagine. Sapor et odor fœniculaceus *Sassafras* arbori proprius, lignum, nec corticem penetrat. Adulti corticis superficies rimis verticalibus transversalibusque dehiscit palletque; juvenilis punctis lenticellaribus variis inspergitur, viret vel rufescit, glaber est vel pilis rigidulis strigulosis tomentulum construentibus vestitus. Cicatrices foliorum delapsorum crassæ, reniformes, scutiformes, lunatæ, diu persistunt, situmque foliorum produnt. Ramificatio fit circa apices et ex ipso apice, quam posteriorem innovationem appello. Basis innovationum gemmæ naturam docet cicatricibus squamarum angustioribus, quæ modo confertissimæ quasi annulos efficiunt, modo in spiris regularibus disponuntur, modo paucissimæ adsunt et parum conspicuæ.

11. *Gemmatio.* Gemmæ vel paucis teguntur squamis, vel pluribus. Illarum squamæ subcoriaceæ sunt et herbaceæ, quasi valvatim oppositæ, carinatæ, apice magis minusve dehiscentes; quarum duæ vel quatuor plerumque majores extus solæ in conspectum veniunt, unâ alterâve minore ad basin gemmæ a latere accedente. Pyramidales hæ gemmæ sunt, angulatæ, vel compressæ, neque terminales neque axillares magnitudine admodum præcellentes. Sub foliatione squamæ istæ nonnihil increscunt, subfoliaceâ structurâ præditæ, et post paucas earum jam sequuntur perfectiora folia evidenti transitu. Ex altera parte gemma, quæ multis squamis tecta, perulata dicitur, his gaudet chartaceis vel coriaceis, pluribus spiris arcte imbricatis, sub foliatione solutis nullâque præviâ evolutione cadentibus; terminales hujusce modi gemmæ majores sunt, ovatæ, oblongæ, lanceolatæ, teretesque, nec angulatæ.

Cassytæ generis gemmæ continuâ fere evolutione dissolvuntur.

12. *Folia* omnium simplicia, integerrima et plurimorum etiam integra, petiolata, coriacea, chartacea, persistentia vel defluentia et mollia, glabra, vel subtus præcipue pubescentia, sericea, tomentosa, glandulis subcutaneis punctulata, in paucis majoribus aliquot glandulis poro pertusis in axillis ramorum retis principalium instructa, nitida vel opaca, subtus sæpe glauca, penninervia, vel palminervia, vel quæ utrisque intercedunt media, triplinervia, reticulo interjecto magis minusve distincto, venulis sæpe arcuatis subparallelis. Dispositio foliorum alterna, ad divergentiam $\frac{2}{5}$, ut Alexandri Brauni verbis[*] utar, apud plerasque exstruitur, ita quidem, ut sextum quodque folium cum primo quoque, quod tibi elegeris, lineâ verticali jungatur. In multis autem singuli ramuli ejusdem evolutionis senis tantum gaudent foliis circa apices magis magisque confertioribus, quæ insequitur gemma apicem occupans. In aliis per paria propius sibi conjunguntur folia, vel etiam opposita aut verticillata proveniunt, ad verticillorum leges tum disposita.

Cassytæ folia abortiva, in squamulas exiguas abeunt.

13. *Inflorescentia* duplicis est generis: umbellulata, vel paniculata. *Umbellulata* e floribus oritur in communis pedunculi apice propriis pedicellis suis nascentibus; qui flores, cum non nisi exiguis pedicellis feruntur, veluti in capitula congeruntur. Involucrum his datum est tetra- hexa- octophyllum, cujus foliola squamis gemmarum foliipararum perfectiorum sunt similia. Proveniunt istæ umbellulæ e foliorum axillis, propriæ gemmæ basi, sæpe brevissimæ, impositæ, quæ basis seu axis gemmæ, cum altius ab origine assurgit, fasciculatæ vel racemosæ dicuntur umbellulæ; paucis singulæ sunt per axillas foliorum umbellulæ, abortu reliquarum residuæ. Ubi pedunculus umbellulæ contrahitur, glomerulus prodit umbellularum; squamæ jam immiscentur gemmæ umbelluliferæ; tum denique, evanescente omni pedunculi communis vestigio, flores singulatim inter gemmæ axillaris squamas emergunt, et ipsa tum vero gemma umbellulæ involucratæ sessilisque sæpe induit speciem, cui squamæ steriles, modo plures, modo pauciores, ad basin accedunt, seriores autem amplioresque circa flores pro involucro inserviunt. Hæ igitur umbellulæ longe differunt ab illis, quas supra descripsimus, neque floribus unquam gaudent revera ex eodem puncto provenientibus, neque squamæ bracteales plerosque istarum flores deficiunt. Sunt enim istæ, quæ umbellulæ videntur, ortæ ex umbellulis in gemmæ suæ basin demersis solutisque; illæ autem quas supra memoravi, ramulis gemmæ suffultæ

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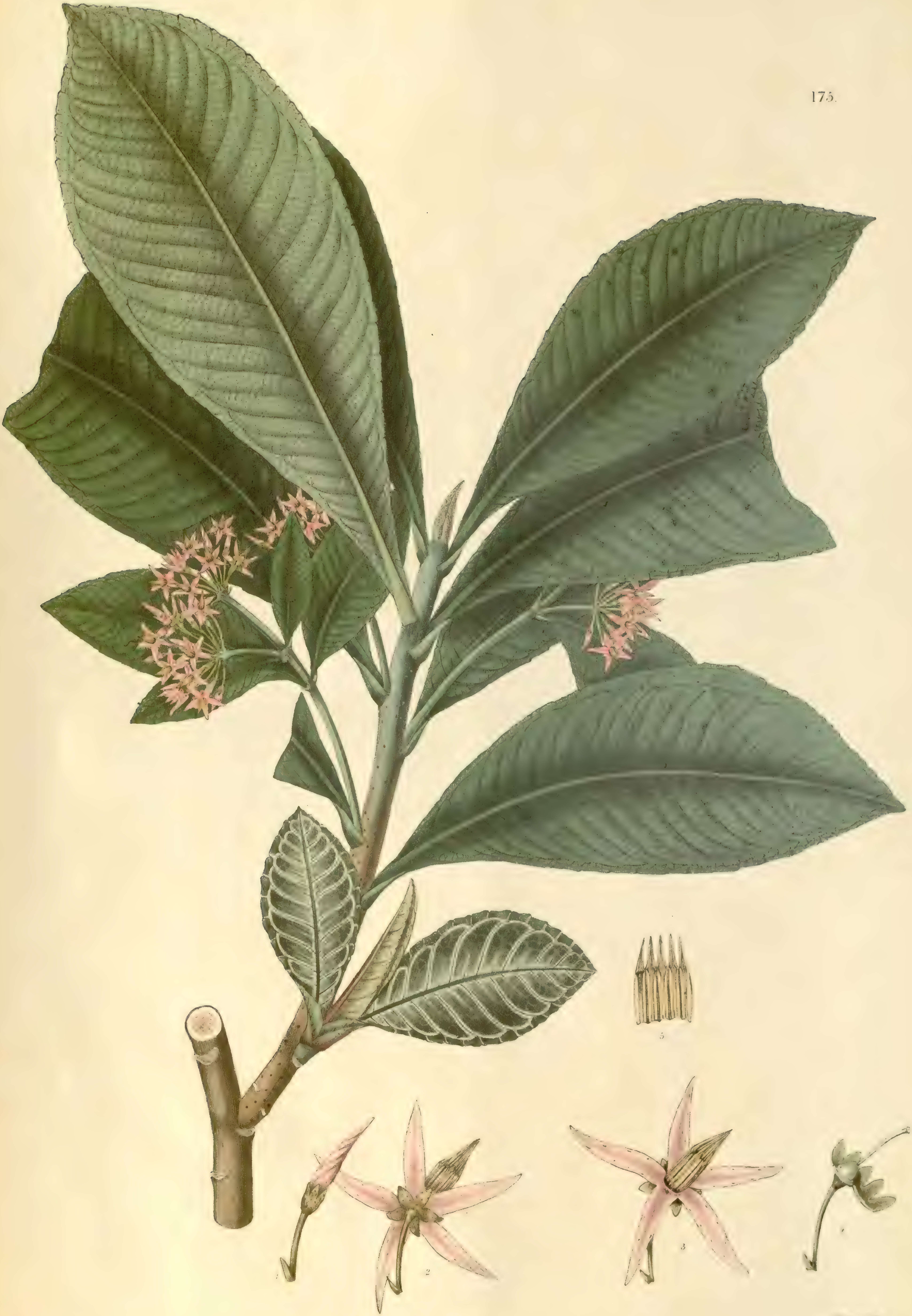
[*] Ueber die Stellung der Schuppen an den Tannenzapfen.—In Nov. Act. Acad. Cæs. Nat. Cur., Vol. XV. P. I. p. 249 sqq. et p. 266.



Ardisia hymenandra.

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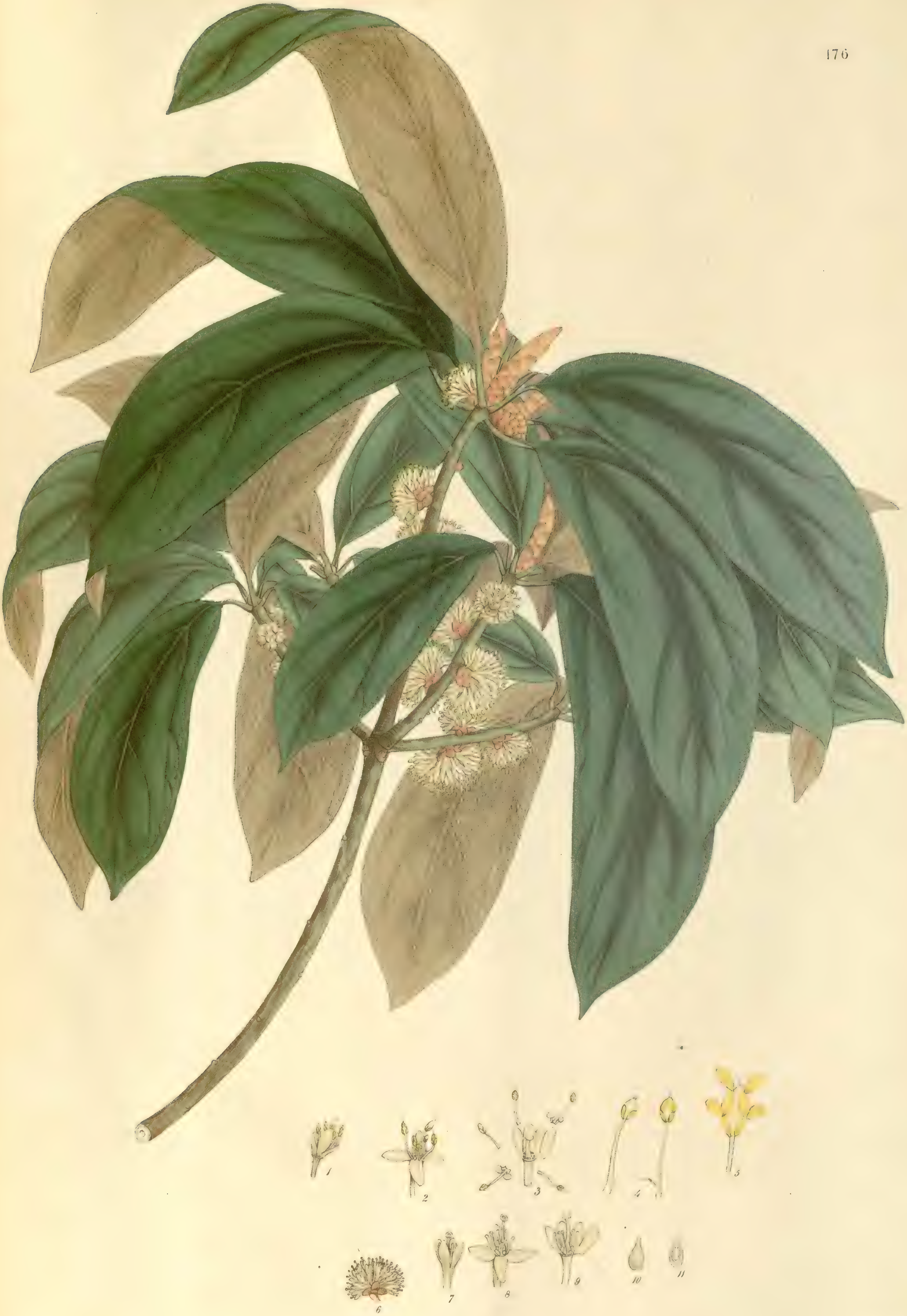
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Tetranthera lanuginosa

elatioresque fasciculi sunt habendi, ulterius non divisi ideoque ramulum seu pedunculum glomerulo umbellulari claudentes.

Inflorescentia *paniculata* axillaris nascitur vel e squamæ gemmæ axisque angulo, squamâque delapsâ, nudæ ad innovationum basin tum consociantur paniculæ, vel simul e foliorum superiorum persistentiumque axillis, vel solis ex istis prodit. Dividitur autem talis panicula in ramos, per paria approximatos oppositosve, qui singuli semel bisve furcatim finduntur, interjecto in singula divisione flore intermedio. Deficiente in plerisque flore primæ aut secundæ divisionis medio, ramuli ultimi paniculæ 4 floribus gaudent, addito autem illo sex vel septem. Ubi rami paniculæ magis evolvuntur, ad communis pedunculi typum ipsi accedentes parvæ sunt paniculæ. In debiliori inflorescentia triflori sunt ramuli, solo medio utriusque divisionis flore adhuc superstite. Magisque autem in compendium redacta omnis inflorescentia ramulum ejusmodi exhibet apice cymuloso-bifidum, 14- 12- 8- 7—3-florum. In *Cassyta* inflorescentiæ axis integer, abjectis ramis, flores fert in spicas redactos.—Bracteolæ parvæ, squamiformes, ad basin ramificationum omnium existunt, sub explicatione inflorescentiæ aufugientes.

14. *Pedicelli proprii* post anthesin magis minusve apicem versus increscunt, tument rigentque, perianthii cum tubo confluentes. Sunt, quorum pedicelli, cum fructus incremento quam maxime incrassati succulenti, colorati, recti vel incurvi, fructus specie aliena fallant. *Cassytæ* flores sessiles sunt.

15. *Perianthium* e duplici verticillo sepalorum, basi majori minorive spatio in tubum connatorum, constat; tubus perstat in omnibus, ubi vero brevissimus est, sub fructu fere evanescit; in aliis autem natura brevior, nec minimus, in discum orbicularem explanatur; in aliis cyathi indurati et incrassati forma cum pedicello incrassato confluit; in aliis, ubi longior, fructum omnino investit clauditque, et tunc quidem succulentus carnosusve sub maturitatis tempus inspissatur. Pars libera sepalorum, limbum efficiens, patens aut erecta, sæpe pubescens et intus præcipue sericea, ternis quinisve nervis divisa, glandulis subcutaneis pellucidis punctata, membranacea, chartacea, coriacea, in aliis persistit, non multum quoad consistentiam et magnitudinem immutata; in aliis basi, in aliis medio, vel prope a basi, in aliis infra apicem secundum suturam transversalem post peractam anthesin vel primum natam vel tunc demum apparentem, solvitur caditque: ubi pars aliqua limbi residua cum tubo remanet, hæc mox rigescit et indurata in cupulam a tubo formatam abit, marginem ejus truncatum incisumque efficiens: nonnullis limbus integer durescensque cum tubo suo cupulam regularem lobatam conficit. Paucis limbus ab initio deest, staminibusque tot, quot laciniæ deficiunt, vices earum supplentur. Verticilli sepalorum vel binis, vel ternis partibus constant, et divergentia $\frac{1}{4}$ vel $\frac{1}{6}$* ita se excipiunt, ut secundus verticillus interstitiis primi respondeat. Ubi verticilli disepali se excipiunt, quadrifidum habes perianthium; ubi trisepali, sexfidum. Non desunt autem perianthia 8-fida et 9-fida, sed insolito hæc incremento exoriuntur, neque persistunt.

16. *Stamina* e filamento glabro sæpiusve hirto, apicem versus dilatato constant, antheram fabricæ singularis valvis sursum adscendentibus dehiscentem, glanduloso-punctatam ferente, de cujus structura conferas excursum nostrum 1, hisce adjectum. *Anthera* est *bilocellata* vel *quadrilocellata*. Antheræ ejusdem floris vel omnes introrsum, seu centrum versus, dehiscunt, vel exteriores tantum, interioribus tribus tum extrorsum, peripheriam versus, spectantibus (quod primus observavit cl. R. Brownius).

Ordo staminum idem est, ac si verticilli binati vel ternati sepalorum verticillos eadem divergentiæ lege excipiant. Respondet exterior staminum verticillus sepalis exterioribus, interior, exteriori interpositus, sepalorum interiorum opponitur verticillo. Stamina hæc, vel quatuor, vel sex, quæ primi et secundi ordinis a me appellantur, primam staminum sectionem exhibent. Sequitur in plerisque altera sectio, simili modo disposita, sepalis staminibusque primæ sectionis immotâ lege divergentiæ congruens, sed cujus secundus verticillus vel e staminibus constat imperfectis (staminodiis) brevioribus, loco antheræ capitulo solito sagittato, conico, cordatove rariusve clavato præditis, vel ex toto deest. Ubi deest, antheræ primi verticilli hujus sectionis, qui tertius omnium, *introrsum* spectant, ubi adest, *extrorsum* dehiscunt.

Numerus igitur normalis staminum in flore tetrasepalo est 8, in hexasepalo 12; in exemplis tetrasepalis autem, quæ cognita habemus, ordo staminum quartus, seu intimus, non evolvitur, quo fit, ut non nisi hexandras species tetrasepalas invenias. In hexasepalis novem perfecta existunt inter duodecim stamina, stamina quarti ordinis imperfecta sunt staminodia. Deficiente omnino secundâ illâ staminum sectione tetrandri flores et hexandri proveniunt. Deficiente exteriori sectione floris enneandri, triandrum vides florem.

Ubi loco limbi stamina nascuntur in flore hexasepalo enneandro, numerus staminum ad 15 augetur, et in his denique, staminodiis etiam quarti ordinis perfecte explicatis, 18, regulari progressu oriuntur stamina. Quæ hunc numerum excedunt, evolutioni vagæ tribuenda.

17. Adest in omni flore laurino apparatus quidam partium glandulis similium, quæ in plerisque geminæ staminibus tertii ordinis adjectæ, capitulum parvum, compressum, vel angulosum, figuræ variæ, reniformis, cordato-orbiculatæ etc., lutei coloris, superficie glabra, exhibent, stipiteque vel magis minusve conspicuo gaudent, vel omni stipite carentes sessiles dicuntur. Quando stipite (qui semper brevis est) fulciuntur, singulo trium staminum tertii ordinis ab utroque latere proxime accedunt, tubi perianthii orificio ordine suo impositæ. Rarior autem hæc occurrit glandularum (quas staminodia geminata appellare placuit) sedes; in plerisque par glandularum filamento staminis hujusce ordinis ad basin, vel supra basin, vel magis superiora versus ultra mediam usque eorum longitudinem inhæret, stipite proprio tum sæpe minimo vel nullo. Quas quidem glandulas cum attentius contempleris, non omnino ejusdem esse ordinis, ac dicta seriei tertiæ stamina, invenies, sed aliquanto magis a centro remoti seu exterioris (quantumvis exiguo spatio) ordinis. Probantur hæc eo, quod glandulæ, etiamsi e latere egredi videantur filamenti, tamen tergo ejus, i. e. extrorsum, incumbant. Neque inter se quidem singuli paris glandulas ejusdem ordinis esse puto, sed diversi et alterni. Vidi etenim, ubi paullo majores sunt hæ glandulæ, unam totam fere a tergo incumbentem filamento, alteram magis a latere ejus positam, introrsum istud amplectentem.

Sex igitur adsunt in flore normali glandulæ geminatæ, eæque secundæ staminum sectioni magis exteriora versus subalternoque situ tribuendæ. In paucis accedunt nonnullæ aliæ glandulæ secundi vel primi quoque ordinis staminibus, sed istæ tum neque geminatæ neque conjunctæ, sed proprii sui ordinis, et intervallis illorum respondentes.

18. Nec stamina esse, neque nectaria hæc corpuscula persuasum est, etsi staminodia improprie dixerim. Stamina non esse probat situs et status imperfectus, quem alium perfectiorem (i. e. stamina tertii ordinis) sequi non interrupto ordine, evolutionis legibus est contrarium. Nectaria non sunt, quoniam nectar non fundunt; tum locus etiam singularis est inter staminum series. Massa e meris cellulis texitur irregularibus, granulis refertis et membrana communi obtectis.

Quæ mihi circa hæc vero propius accedere videantur, exponam. Peracto duplice perianthii staminumque primæ sectionis cyclo, quatuor (bis binis) verticillis complexo, nova quasi exoritur cyclorum series, a perianthio novo incipiens. Hujus autem verticilli, utpote communi ejusdem floris ambitu circumscripti et universali ejus evolutione quasi absorpti, perfici non possunt, nec nisi primis lineis adumbrati cernuntur. Quemadmodum autem in quibusdam, v. c. in *Tetranthera apetala* s. *Roxburghii*, limbi partes in stamina mutata videmus, sic istæ novi limbi laciniæ, staminibus diversarum sectionum interjectæ, nec stamina fieri, neque sepala, sed in laminas imperfectas seu staminodia inferioris originis abire necesse est. Magis hæc etiam arrident, si consideramus, novum inversumque in multis posthæc intrare staminum ordinem, cujus bini verticilli, ubi perficiuntur cum limbo illo incompleto alios quatuor verticillos quasi floris interioris exhibent, seu florem imperfecte hexandrum, vel, ubi interior ordo deest, triandrum, qualis solus ex omnibus in *Endiandræ* genere Browniano relinquitur.

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* Alex. Braun, l. c. p. . . .

19. Flos itaque Laurinarum e maxime regularibus est, eademque symmetricâ lege constructus, disepali sint verticilli vel trisepali. Tertius semper primo respondet verticillus, quartus autem secundo. Abortus peripheriam versus ingruit.

20. Vel *hermaphroditi* sunt flores laurini, vel *polygami*, vel *diclini*, et istorum quidem aliis feminei sexus rudimenta in masculo flore concessa sunt, aliis omnino ademta. Femineo flore staminum vestigia nunquam ex integro desunt, restant semper aliqua filamentorum indicia et staminodia geminata. Pistillum, quantum observando assequi potui, simplex, seu ex uno carpello constructum, in omnibus stylo distincto et stigmate latiusculo lobulato instructum. Regulare æquumque videtur carpellum, sed stylus in unum latus semper flexus et stigma obliquum et rhaphe interna defectum præfinitum alterius pluriumve ovariorum ejusdem verticilli produnt[*]. Unum in permultis, quæ dissecui, inveni ovulum, nec plura; idque a vertice ovarii et parum ad latus conversum pendet, sed trophospermio a basi adscendente alterique parieti pericarpii applicato in hunc locum attollitur, minimeque autem rectâ descendit caditve. Anatropicum est ovulum, at vero inæquali magis extensione partium, quam verâ chalazæ ad alteram extremitatem migratione istorum evolutionem non nisi imitari censeo. De his conferas excursum secundum.

21. *Fructus* Laurinarum monospermus est, vel Caryopsis, vel Bacca, vel Drupa[†] dicendus. Ubi siccioris est naturæ, tubo perianthii includitur vel sicco vel carnosulo. Fructus baccatus aut tubo perianthii totove perianthio in cupulam mutato cingitur, aut eidem in discum, integrum laciniisve appendiculatum converso, insidet, aut perianthio patulo persistente, nec vero increscente, circa basin residuo fulcitur, aut denique nudo omnique fere perianthii vestigio exuto pedunculo, magis minusve incrassato inhæret. Color carnis ruber, violaceus, niger, fuscus.

22. *Seminis* testa membranacea, chartacea, coriacea, cartilaginea, ossea, intus rhaphe ramosâ notata, extus carne fructus inducta; membrana interna tenuis est. Hilum transversale, marginatum, superum (quoad fructum) in parte angustiori seminis, cui exostomii vestigia, formæ papillæ, contigua. Perispermium nullum. Cotyledones vel formæ seminis, semiovatæ, vel bis reflexæ, cavum seminis replentes, peltatæ, i. e. collo embryonis non basi suâ sed supra basin adnatæ, parte petiolari brevissimâ, lineam transversalem referente. Embryo basi cotyledonum obtectus; radicula supera, in plerisque plumulam bifidam, collo calloso ceu valle ab ipsa discretam, æquans, acuta; rarius plumula multo major et obtusa. Hypogæas esse cotyledones e structura earum conjicio.

Corollaria.

23. Characterem maxime universalem Laurinarum, omnibusque conformem et immotum exhibent: *Distributio verticillorum floris bis alternans, antheræ valvatæ, glandulæ geminatæ, carpelli et seminis structura.* Hæc sola spectanti unum declarandum est et individuum semper genus: Laurus.

24. Florem si accuratius penetras, *antheræ* in oculos cadunt aliis *omnes introrsum dehiscentes*, aliis non ita, sed *tertii ordinis extrorsum.* Habes sane discrimen attentione dignum. Quod si primum eas Laurinas, quarum omnes antheræ introrsum spectant, inter sese comparaveris, hæc invenies: *Deesse his omnibus staminodia illa quarti ordinis,* rariusve eorum loco vera stamina perfici; *inflorescentiam* esse vel *umbellulam* involucratam, vel *gemmam* squamatam; sexum apud plerasque inter distinctas plantas vel flores distribui.

Tum vero, ad alterum latus conversus, videbis ubicunque tertius staminum ordo retro spectat, *staminodia quarti ordinis vel distincta vel etiam stamina primæ et secundæ seriei una cum his deficientia, inflorescentiam paniculatam* vel e dissoluta panicula *cymulosam* (spicatam in *Cassyta*), nec involucratam, sed minutis caducisque bracteolis inspersam, floresque communiter hermaphroditos. Notantur igitur aut determinantur antherarum directione conformi vel oppositâ simul inflorescentiæ diversæ, sexus diversa distributio; quæ si non spernenda videbuntur, cum floris (partium fructificationis) discrimini alterum vegetationis superioris (inflorescentiæ) discrimen respondeat, cui omnium reliquarum partium concentus quidam facile discernendus adsociatur, duo jam, genera dicas an sectiones, commendabis: Tetrantheram et Laurum (si velis servare nomen); illam ex antheris omnibus centro adversis, hanc ex antheris interioribus reversis dignoscendam.

25. Porro autem *antheras* invenies utriusque harum sectionum aliis esse *bilocellatas*, aliis *quadrilocellatas.* Et ea res quidem, cum pridem a peritis historiæ plantarum viris sit ponderata, neque indigna visa, cujus causâ genera distinguantur, non vili pendenda erit, sed examinanda, maximeque in animum revocandum, quanti sit antherarum hanc in familiam exstruendam vis et quam singulari viâ procreari ipsæ inter Laurinas videantur. Quæras fortasse, numne majoris etiam æstimanda sit hæc locellorum, quam illa, de qua sermo fuit, directionis dehiscentiæ diversitas? Quod si ita esset, Laurinæ omnes, quæ antheris bilocellatis gaudent, pluribus aliis partium tam vegetantium quam procreantium proprietatibus secum magis, quam cum reliquis, conjungi necesse esset. Verumtamen *Cassyta* illa, Cuscutam aliquam referens et *Cryptocarya*, cujus fructus tubo perianthii obtegitur, et *Laurus nobilis* Lin., flore quaternario gaudens pluribusque staminibus, et extra has aliæ quoque diversissimæ indolis omniumque inflorescentiæ graduum species, gemmifloræ, umbellifloræ, spicifloræ, paniculatæ cet., ejusdem generis forent habendæ, quibus evidentissime sequitur, maximi inter characteres generum locellorum numerum non esse momenti sed inferioris. In utraque autem, quas jam statuimus, sectione primaria antheras invenimus esse aliis *bilocellatas*, aliis *quadrilocellatas.* Ex his quinque pridem jam exposita referuntur genera maxime naturalia, videlicet Laurus R. Br., quæ primæ nostræ sectionis, et Endiandra, Gyrocarpus, Cassyta, Cryptocarya secundæ. Quæ quidem genera non modo ab aliis sui ordinis, sed etiam inter sese differunt maxime: tubi calycis post anthesin evolutione diversâ, cui soli fructus quædam ab universali charactere declinatio consociatur, tum vero laciniarum vel persistentium vel vario modo post anthesin discedentium indole, partium floris numero tam absoluto quam relativo, staminodiorum figurâ, *inflorescentiâ, in diversissimis quibusdam generibus diversissimâ,* foliorum aut defectu, aut, ubi adsunt, nervatione et consistentiâ, gemmis denique aut valvatim aut imbricatim squamulatis.

Indicia itaque præbere antherarum locellos (binos quaternosve) generum naturæ convenientium patet, sed ad alia simul esse advertendum quæ si suffragentur, probanda fore genera, si contradicant, relinquenda.

26. His igitur regulis et veluti ducibus in Laurinarum terra peregrina usus sum omnibusque sedulo ab omni parte iterumque investigatis, plantas hujus ordinis omnes, characterum, quos supra citavi, per gradus invalescentium aut declinantium diverso concentu discedere in plura genera persuasum est tam vegetatione quam fructificatione congrua et ex earundem partium, levi ea quidem primo adspectu, diversitate mox dignoscenda, tametsi habitus universalis et partium foliacearum per omnem ordinem simplicitatem et similitudinem minus atque in aliis plantarum familiis sub oculos cadat.

27. In hac autem sententia maxime confirmatus sum, cum viderem, *eosdem characteres, quos principali illi, ex antherarum conversione hausto, accedentes, Laurinas omnes in duas partes apprime naturales dirimere supra demonstravimus,* in his etiam, quæ utrisque subjecta sunt, *generibus* dijudicandis *primum locum tenere,* et inter suos quoque limites variatos præcipuam illis notam, tanquam sigillum imprimere, quo reliquæ omnes notæ, in unum collectæ, continentur.

Qui characteres, suo ordine, a superioribus ad inferiora progrediendo, hi sunt:

1. Antheræ bilocellatæ vel quadrilocellatæ.
2. Tubus perianthii fructum investiens aut revelans.
3. Tubi perianthii diversæ peracta anthesi mutationes, et formæ, quibus sub fructu persistens observatur. Fructus maturi substantia ab hisce dependens.
4. Limbi, seu liberæ partis sepalorum, aut integri aut certæ ejusdem

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[*] Hæc cum jam scripta essent, cel. Martius per litteras nunciavit, se in Laurinis Brasilianis plura carpella observasse, saltem videri se talia vidisse.

[†] Excursus II.

partis, duratio vel ejusdem defluxus, structurâ, i. e. suturâ articulari, præfinitus.

5. Numerus quaternarius vel senarius partium floris.

6. Staminum primæ vel secundæ divisionis abortus, aut completus, aut alterius tantum eorundem ordinis.

7. Staminodiorum, imprimis geminatorum, frequentia solito major et aliena eorum a typo distributio.

I. Inflorescentia, quantum intra limites sectionis cujusque superiorum variatur. Hæc inter characteres, a vegetatione derivandos, primum tenet locum, et characteribus partium fructificantium 1 et 2 respondet.

II. Gemmatio, quam characteribus floralibus 3 et 4 æqualem duco.

III. Nervatio foliorum, et eorundem in ramis distributio, cum characteribus 5 et 6 partium floralium componendæ.

IV. Folia persistentia vel annuis vicibus cadentia.

28. Quibus præmonitis, tentaminis loco hanc propono Laurinarum ordinis in sua genera distributionem.

LAURINÆ.

Genera Laurinarum in *India orientali* provenientium, additis sine numero generibus *exterarum* plagarum affinibus.

I. Staminodia quarti ordinis formæ diversæ et cum staminibus tertiæ seriei alternantia *nulla*. Antheræ omnes* introrsum dehiscentes. Inflorescentia vel umbellata et subcapitata involucrata, vel primis temporibus gemmaceo-squamata, fasciculata aut racemosa, nusquam conspicue elongata.

A. Antheræ bilocellatæ. (Dioecae.)

1. *Polyadenia:* Perianthium sexpartitum, deciduum. Stamina 6—9, omnia basi biglandulosa; antheræ ovatæ, breves.

Laurus: Perianthium quadripartitum, deciduum. Stamina duodecim (exteriora 4 limbi laciniis alterna), omnia medio biglandulosa; antheræ oblongæ.

2. *Daphnidium:* Perianthium sexpartitum, basi persistens. Stamina novem, quorum tria interiora basi biglandulosa. Antheræ oblongæ. Bacca fundo floris irregulari explanato insidens.

3. *Benzoin:* Perianthium sexpartitum, persistens. Stamina novem, glandularum alternis ordinibus intercepta. Antheræ ovatæ. Bacca perianthio persistenti non mutato insidens.—Arbores foliifluæ.

B. Antheræ quadrilocellatæ; (omnes anticæ.)

4. *Dodecadenia:* Hermaphrodita. Perianthium sex- vel novempartitum. Stamina 12—19, quorum sex interiora basi biglandulosa. Bacca disco floris orbiculari explanato imposita.—Gemmæ unifloræ.

5. *Iozoste:* Dioeca. Perianthium sexfidum, limbo deciduo. Staminodia floris feminei novem, sagittata.

6. *Tetradenia:* Dioeca. Perianthium quadripartitum, rarius 5—6-partitum. Stamina sex triplici serie, quorum duo vel quatuor utrinque glandulâ stipata. Bacca nuda, pedicello apice incrassato imposita.—Folia triplinervia.

7. *Tetranthera* Jacq.: Dioeca vel polygama. Perianthium sexfidum, rariusve limbo privatum. Stamina 9—15, quorum tria interiora utrinque glandulâ stipata. Bacca tubo floris explanato imposita.—Flores umbellulati vel capitati. Folia venosa.

8. *Cylicodaphne:* Dioeca. Perianthium sexfidum. Stamina duodecim, quorum sex interiora antheris subincompletis inversis basi utrinque glandulâ stipata. Bacca tubo floris cyathiformi integerrimo calyculata.—Inflorescentia præcedentis. Folia venosa.

9. *Actinodaphne:* Dioeca. Perianthium sexfidum. Stamina novem, quorum tria interiora basi biglandulosa. Bacca perianthii tubo cyathiformi innata, laciniarum persistentium residuis appendiculata.—Flores racemosi. Folia verticillata.

Sassafras: Dioecum. Perianthium sexpartitum. Stamina novem, quorum tribus interioribus utrinque glandula crassa, stipitata, libera adjuncta. Bacca pedicelli apici incrassato et perianthii basi residuâ marginato imposita.—Flores racemosi. Arbores foliifluæ.

II. Stamina primi et secundi ordinis nulla omnino vel in glandulas mutata. Staminodia quarti ordinis *nulla*. Antheræ inversæ.—Inflorescentia paniculata, rariusve subracemosa. Flores hermaphroditi aut polygami.

10. *Endiandra* R. Br.: Stamina tria, libera. Antheræ bilocellatæ. Bacca perianthii tubo truncato immersa.

Misanteca Schlechtend. in litt.: Stamina tria, monadelpha. Bacca perianthio persistente cincta.

III. Staminodia quarti ordinis tria distincta, formæ a glandularum staminibus adjectarum figurâ diversæ. Antheræ tres interiores ubicunque adsunt, extrorsum, vel saltem (uno in genere) a latere, dehiscentes.—Inflorescentia paniculata vel cymosa, in uno genere spicata.

A. Antheræ unilocellatæ.

11. *Gyrocarpus* Jacq.: Polygamus. Perianthium 4-, 6-, 8-fidum. Stamina et Staminodia quatuor. Caryopsis perianthio apice bialato inclusa.

12. *Cassyta* Linn.: Perianthium sexfidum, laciniis tribus exterioribus nanis. Nux tecta perianthii tubo incrassato carnoso, laciniis persistentibus coronato.—Flores spicati. Herbæ (vel suffrutices) aphyllæ, volubiles.

13. *Cryptocarya* R. Br.: Perianthium sexfidum æquale, tubo angusto, limbo deciduo. Caryopsis tubo drupaceo clauso perianthii obtecta.—Inflorescentia paniculata.

14. *Beilschmiedia:* Perianthium sexpartitum æquale, laciniis deciduis. Antheræ tres interiores latere dehiscentes. Bacca suberosa perianthii basi orbiculari imposita.—Inflorescentia subracemosa.

B. Antheræ quadrilocellatæ.

15. *Cecidodaphne:* Perianthium subinfundibuliforme, sexfidum, limbo deciduo. Staminodia interiora capitulo subulato. (Fructus perianthii tubo inclusus?)—Inflorescentia e gemma gallæformi thyrsoidea brevis.

16. *Machilus* Rumph.: Perianthium ad basin sexpartitum. Bacca perianthio immutato persistenti patenti vel reflexo insidens*.—Folia penninervia, venosa.

17. *Ocotea* Aubl.: Perianthium sexfidum. Bacca perianthio persistente, cum limbo in cupulam indurato, calyculata.—Folia penninervia†.

18. *Alseodaphne:* Perianthium sexfidum. Bacca tubo perianthii in discum orbicularem integrum mutato imposita.—Folia penninervia, costata.

19. *Camphora* Bauh.: Perianthium sexfidum. Bacca tubo perianthii cyathiformi, in cupulam truncatam integerrimam indurato, calyculata.—Folia triplinervia apice penninervia. Gemmæ perulatæ.

20. *Cinnamomum* Burm.: Perianthium sexfidum. Bacca tubo perianthii cum basi laciniarum persistente in cupulam cyathiformem truncatam sexfidam indurato calyculata.—Folia trinervia vel penninervia. Gemmæ pauci squamatæ, squamis foliaceis.

EXCURSUS I.

De Laurinarum *antheris*.

Anthera *quadrilocellata* revera e duabus constat antheris, seu e locellis quatuor, per paria conjunctivo communi connatis, quorum duo inferiores plerumque majores magisque in medio distantes a tergo paullo ultra locellos superiores adscendunt. Locelli superiores magisque antici et contigui propria membrana gaudent, fineque clauso in locellos inferiores oblique descendunt. In plurimis sutura obliqua a tergo fines utriusque locelli indicat, ubi superior quisque inferiori ab antica parte incumbit duplicemque ibidem producit membranam; paullo magis apicem versus, desinente inferioris locelli laminâ, superioris sola et simplex membrana postica restat. Operculum, seu valvula quam dicunt, anterior locelli est paries, suturâ circumscriptus, nec nisi ubi locelli inter se cohærent insolubilis. Talis dehiscentia similis esse videtur valvulis siliquæ, cujus duo carpella non amplius suturâ, sed in media costa solvuntur.

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* Cylicodaphne genere demto.

* *Perseæ gratissimæ* fructus nullo perianthio insidet. Hæc itaque sola (multis ea quidem aliis satis differens,) sui generis species, cui nomen servandum, et reliquis omnibus aliud inveniendum.

† Ocotea Gærtn. et Humb. et Kunth diversa genera, Camphoræ generi et Cylicodaphni propiora, in India orientali nullis vel paucissimis obscurioribusque pollent civibus.

Excursus II.

De *ovulo* et *fructu* Laurinarum.

Germen parietibus gaudet crassis, carnosis. Funiculus ad alterum latus ovarii ad apicem adscendens; ovulum pendulum, anatropicum, obovatum, membranâ primâ chartaceâ. Peristomium juxta hilum. Rhaphe in venas eleganter soluta, pallida, latere opposito descendit, chalazam constituens hilo non perfecte oppositam; endostomium superum.

Fructus *maturus: bacca!*—vel *nucula*, vel *caryopsis*, calycis eæ tubo indutæ. Hilum superum, margine tenui elevato cinctum, papillâ mediâ carnosâ coronatum, quam funiculus umbilicalis, a basi fructus adscendens*), depressus, latus, sulculo testæ inhærens, cruribus duobus angustis amplectitur. Exostomii papilliformis in semine perfecto nullum ostiolum. Testa chartacea, coriacea, quandoque membranacea et tenuis, pallida, extus opaca, intus nitens, in cujus pariete interiori, lateri, ubi funiculus foris adscendit, opposita, rhaphe in plures ramulos venosos soluta, lata, pallida, ad dimidium fere descendens in chalazam abit amplam circularem, parum ultra extremitatem inferiorem latioremque seminis excurrentem, obliquam igitur et lateralem, lutei coloris; reliqua pars membranæ interioris pallet, loco endostomii, hilo subjecti, maculam magnam chalazoideam orbicularem formans. Embryo cavi seminis figuræ, cotyledonibus crassis intus planis supra basin conjunctus. Radicula et plumula plerisque æquales, conicæ; hæc bifida.

Particularia quædam.

1. In Sectione prima testa tenuior, chartacea, cum membrana interna seminis connata.

2. In Alseodaphne testa est tenuior, membrana interna læte fusca, nitida.

3. In Polyadenia rhaphe in venulas paucas soluta, chalazæ vestigia obsoleta, sed umbilicus internus maculâ luteâ notatus.

4. In Dodecadeniæ ovulo funiculus umbilicalis crassus, hilum latum, cui exostomium tumidulum proxime adjectum; rhaphe ad extremitatem oppositam (inversam) adscendens.

5. In *Tetranthera Roxburghii* funiculi umbilicalis adscendentis vestigia non observavi; ovulum et semen a vertice ipso recta pendere videbantur. Rhaphes nulla vestigia; macula chalaziformis umbilici interioris; e regione opposita papilla minuta. An ovulum hujus generis vere orthotropicum?

6. In *Tetranthera sericea* semen mucronatum. Caro baccæ tenuis. Testa seminis crassa, coriacea, alba fibris transversalibus, latere pervia, qua caro nigrescens intrat et parietem internum strato tenui nigrescente (membranâ internâ) investit. Membrana interna sub apice oblique appensa, venâ nigrâ testam permeante.

7. Anatropia ovuli Laurinarum ejusdem naturæ esse videtur ac anatropia Amentacearum, quæ secundum *Mirbelii* observationes ex orthotropia primaria exoritur, cum vera basis interior ovuli, cui chalaza firmiter inhæret, incremento prævalente producta chalazam, ab hilo dimotam, in partes oppositas vel suboblique aversas abripit. Quæ quidem similitudo, ab observatione § 5. suggesta, si forte examine, in recentiori statu instituendo, omnibus Laurinis communis esse exhibeatur, haud male conveniret Laurinarum naturæ, in universum ad Amentaceas tendenti.

Excursus III.

Affinitas.

Laurinæ Berberideis proximæ sunt: floris symmetriâ et numero ternario, antherarum dehiscentiâ, carpellorum abortu, relicto uno, plerumque baccante.

Differunt Berberideæ a Laurinis: locello toto antheræ a connectivo secedente, secundo staminum biseriatorum ordine deficiente, glandulis ubi adsunt, cum petalis connatis, seminibus pluribus adscendentibus, albuminosis, embryone; in modo denique toto crescendi, inflorescentiâ, acrimoniâ fructuum, cet.

De similitudine Amentacearum jam sermo fuit. Hæc autem affinitas magis ad fructus et ovuli evolutionem respicit, quam ad universum partium floris concentum vel ad arborum utriusque familiæ indolem generalem.

LAURINÆ INDIÆ ORIENTALIS.

(Adjectis affinibus aliarum plagarum generibus, non numeratis).

I. Polyadenia.

(Tetrantheræ spp. *Wall.*)

Flores dioeci, involucrati. Perianthium sexpartitum, laciniis æqualibus deciduis. Stamina fertilia 6—9, omnia circa basin biglandulosa. Antheræ breves, bilocellatæ, introrsum dehiscentes valvulis totidem adscendentibus.—Flos femineus mari similis: staminibus 6—9 sterilibus, quorum 6 basi biglandulosa. Stigma peltatum parvum. Bacca perianthii basi disciformi latâ suffulta.

Inflorescentia: Umbellulæ pedunculatæ, fasciculato-agglomeratæ, vel solitariæ. Involucra tetraphylla.—Folia alterna, reticulata, subtus subtomentosa. Gemmæ foliiparæ foliaceo-squamosæ.

Differt a *Lauro* glandulis singulo stamini fertili basi additis, antheris brevibus. Habitus longe distat a *Lauri* naturali indole.—A *Tetranthera* genere præcipue differt antheris bilocellatis—artificiali hoc loco fortasse notâ.

1. *Polyadenia reticulata;* foliis oblongo-cuneiformibus brevicuspidatis subtus reticulatis ramulisque ferrugineo-subtomentosis, involucris agglomeratis.—*Tetranthera reticulata* Hamilt., Wall. Cat. n. 2551, A, B.

Crescit in Gualpara (Herb. Hamilt.); in Silhet (Franciscus De Silva). Floret Junio.—Arbor.

Adnot. *Laurus Nacusua* Don Fl. Nepal. p. 64. n. 1. nostræ plurimis convenire videtur, sed differt: 1°. involucris 8-phyllis, quæ in nostra 4-, ad summum 5-phylla; 2°. floribus hermaphroditis, qui nostræ dioeci. An var.?

2. *Polyadenia grandis;* foliis obovatis obtusis subtus reticulatis ramulisque compressis ferrugineo-subtomentosis, involucris agglomeratis.—*Tetranthera grandis,* Wall. Cat. n. 2552.

Crescit in Penang. (Georgius Porter.)—Arbor.

Adnot. Planta sane non ex omni parte rite observata, sed ea præcedenti habitu naturali adeo cognata, ut de vera justaque conjunctione nullus dubitem. (Florem femineum non vidi.)

Laurus.

Flores dioeci vel hermaphroditi, involucrati. Perianthium quadripartitum, laciniis æqualibus deciduis. Stamina fertilia duodecim triplici serie, quarum exteriora laciniis perianthii alterna: omnia in medio vel supra medium biglandulosa. Antheræ oblongæ bilocellatæ, omnes introrsum dehiscentes, valvulis duabus adscendentibus. Pistilli in masculis rudimentum nullum.—Femineus flos staminibus castratis duobus, basi dilatatis, germen cingentibus? Stigma capitatum. Bacca fundo calycis irregulari insidens.

Inflorescentia: Umbellulæ axillares, pedunculatæ, involucratæ.—Folia alterna. Gemmæ foliiparæ valvulares, squamis herbaceis.

Exemplum unum hujus typi, *Laurus nobilis* Lin., filamentis in medio appendiculatis, appendiculis seu staminodiis reniformibus substipitatis, locellorum inferiorum molimina divulsa nexuque destituta exhibentibus, tum dispositione partium floris aliâ, ternâ ex elementis quaternis, distinguitur, tum etiam gemmis non perulatis.

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* Argumento hoc est gravissimo, *baccam*, nec drupam appellandum esse fructum Laurinarum, eumque differre tantum testæ seu primi integumenti spissitudine vel tenuitate. Namque ubi spissior est testa, pericarpii nuculam esse arbitrati sunt, et membranam internam pro testa venditavere; quæ si ita se haberent, semen adscendens vel erectum, neque pendulum, esset appellandum, embryo autem intra semen inversus. Contra ea vero ubicunque testa tenerior cum membrana interna magis cohæret, baccam justo nomine fructum appellavere. Gærtnerus fil. in tertio immortalis operis paterni volumine de Persea, Borbonia cet. agens testam ubique loculamentum vel putamen, membranam internam autem seminis integumentum appellavit.

II. DAPHNIDIUM.

Laurus *R. Br.*, *Blume.* (Tetrantheræ spp. *Wall. Cat.*)

Flores dioeci, involucrati. Perianthium sexpartitum, laciniis æqualibus deciduis. Stamina fertilia novem, triplici serie: tria interiora basi biglandulosa; antheræ oblongæ, bilocellatæ, omnes introrsum dehiscentes, valvulis duabus adscendentibus. Pistilli in masculis, staminum in femineis rudimenta. Bacca fundo calycis irregulariter persistenti insidens.—Inflorescentia: flores fasciculati, axillares, ante anthesin squamis gemmaceis tecti, vel umbellati involucrati. Folia alterna, nervosa vel penninervia. Squamæ foliiparæ perulatæ.

Differt a LAURO staminodiis præter ea, quæ basi staminum trium interiorum insident, nullis, et partium floris non solum numero, sed etiam dispositione diversis.

† Foliis nervosis.

1. *Daphnidium melastomaceum;* gemmis florigeris subtrifloris bivalvibus glomeratis, foliis ovali-oblongis obtuse cuspidatis subtus glaucescentibus trinerviis, nervis supra basin confluentibus.—*Tetranthera melastomacea* Wall. Cat. n. 2565. *Laurus cuspidata* Don Fl. Nep. p. 64.? *Tomex Bolo* Hamilt. Ms.

Crescit in montibus Silhet (Henricus Bruce).—Arbor. Planta ♀ non nota.

Adnot. Si præsumendum esset, cl. Blumium in *Lauro bibracteata* (Bydrag. p. 553.) verbo "[floribus] bibracteatis" gemmæ, quas diximus *valvulas* subintellexisse, dubium non esset, quin nostra planta *Laurus bibracteata* hujus auctoris sit æstimanda. Sed quoniam has ipsas partes in conspectu generum *involucrum* appellavit, conjecturis uti nolebam, bracteasque illas diversas ab involucro partes esse, pedicellis florum impositas, mihi persuadebam.

2. *Daphnidium caudatum;* gemmis florigeris (♀) spiculiformibus, bracteis persistentibus, foliis lanceolatis acuminatissimis trinerviis subtus ramulisque novellis pubescenti-tomentosis canescentibus.—*Tetranthera caudata* Wall. Cat. n. 2866. "*T. melastomaceæ* proxima."

In montibus Silhet inventa est (F. D.).—Frutex?

Adnot. Etiamsi flores masculi non sint observati, vix tamen est dubium, quin hujus generis habenda sit arbor, adeo affinis *Daphnidio melastomaceo*, ut, numne ejusdem alter sexus putandus sit, haud immerito quæras.

3. *Daphnidium pulcherrimum;* gemmis florigeris in pedunculo brevi fasciculatis, foliis elliptico-oblongis exquisite cuspidato-caudatis subtus cæsiis subquintuplinerviis.—*Tetranthera pulcherrima* Wall. Cat. n. 2567, A.

In Napalia legit Wallich, anno 1821.—Arbor.

Adnot. Plantæ femineæ ramuli magis sericeo canescunt, folia quoque ejusdem subtus frequentiori lanugine in ætatem usque vestiuntur.

†† Foliis venosis.

4. *Daphnidium bifarium;* gemmis florigeris multifloris geminis, floribus subumbellatis dense conglomeratis, foliis oblongo-lanceolatis utrinque acuminatis subtus ramulisque novellis pubescenti-canis.—*Tetranthera bifaria* Wall. Cat. n. 2530.

Crescit in Napalia (Wallich, 1821.) et in Kamaon (Robertus Blinkworth).—Arbor.

Adnot. *Tetranthera vestita* Wall. in Catal. l. c. notata, juveniles communis speciei ramulos exhibere videtur; nullâ etenim, nisi pubescentiæ evidentioris notâ differt.

5. *Daphnidium oxyphyllum;* umbellulis axillaribus fasciculatis, fasciculis apice innovantibus, foliis oblongis acuminatis basi acutis glabris subtus pallidis.—*Tetranthera oxyphylla* Wall. Cat. n. 2547.

Crescit in Penang (G. P.).—Arbor.

Adnot. DAPHNIDIIS adjudicando hanc speciem optimum elegisse reor in re sane non penitus ad lucem producta, cum dubitari adhuc possit, num antheræ, cursu temporis perfectiores, quaternis denique locellis proditturæ fuissent. Adsentiente autem modo evolutionis gemmarum florigerarum, donec rectiora doceamur, Daphnidium appellare, neque Tetrantheram, meeum statui.—Feminam non vidi.

? *Daphnidium elongatum;* umbellulis axillaribus solitariis, foliis lanceolatis subtus reticulatis ramulisque junioribus hirtis.—*Tetranthera elongata* Wall. Cat. n. 2546.

Crescit in Napalia. Lecta anno 1821.—Arbor. Fructus et flores ♂ non noti.

III. BENZOIN.

(Lauri spp. *Lin.* Tetrantheræ sp. *Wall.*)

Flores dioeci, involucrati. Flos ♂: Perianthium sexpartitum, laciniis æqualibus persistentibus. Stamina fertilia novem, triplici serie; antheræ ovatæ, bilocellatæ, valvulis totidem adscendentibus introrsum dehiscentes. Staminodia novem, triplici serie, capitulo reniformi emarginato compresso, seriei primæ ac secundæ staminibus alterna, tertiæ staminibus adjecta obliqua.—Flos ♀ masculo minor, filamentis sterilibus (12?), interjectis staminodiis spathulatis. Stigma bilobum. Pistillum parvum, germine stigmateque distinctis. Bacca calyci persistenti sexfido insidens.—Inflorescentia umbellata, umbellis pedunculatis. Involucrum tetraphyllum, flores primum includens, demum deciduum. Folia alterna, venosa (ad speciem sæpe quintuplinervia), glabra.—Gemmæ foliiparæ axillares stipitatæ, nudæ.

1. *Benzoin Neesianum* Wall.; foliis ovatis (cordatisve) longe acuminatis supra læte viridibus subtus glaucis.—*Tetranthera Neesiana* Wall. Cat. n. 2558.

Crescit in Napalia, inventa anno 1821 a Wallichio. Rarissima.

Arbor (fol. 5—7 poll. longis, 2½—4½ poll. latis). Baccæ pipere majores, odore forti Olei Cajuputi.

Ejusdem generis est *Laurus Benzoin* Lin. (*Benzoin odoriferum* nob.), et probabiliter *L. diospyroides* Mich^{x} et *L. æstivalis* Lin., quæ cunctæ gemmatione, foliorum indole et autumnali defluxu maximeque inflorescentiâ conveniunt. Staminodia geminata in his ita sunt disposita, ut staminibus quidem tribus interioribus gemina adhæreant, alterum vero a tergo, alterum a latere magisque a fronte seu centrum versus filamento incumbant.

IV. DODECADENIA.

(Tetrantheræ sp. *Wall.*)

Flores hermaphroditi, e gemma squamata solitarii. Perianthium sex-novempartitum, laciniis subæqualibus deciduis. Stamina fertilia duodecim ad quindecim, quadruplici serie disposita, quorum sex vel novem exteriora staminodiis binis capitatis ad basin stipata. Antheræ oblongæ quadrilocellatæ, omnes introrsum versæ valvulisque binis adscendentibus dehiscentes. Stigma infundibuliforme dentatum. Bacca disco floris orbiculari plano imposita.—Inflorescentia gemmiformis, squamis imbricata. Flores pro genere speciosi. Folia penninervia, venosa.

Differt a TETRANTHERA: involucris unifloris, staminum et staminodiorum (in flore metamorphosi non dissoluto, sed inter omnes affines præstantissimo,) numero, stigmateque. Antherarum locellorum par superius introrsum, inferius a latere dehiscit.

Dodecadenia grandiflora.—*Tetranthera grandiflora* Wall. Cat. n. 2544.

Habitat in Napalia (Wallich a. 1821.); in Kamaon R. B. Floret Aprili.—Arbor gemmis florigeris solitariis geminisve, foliis oblongis acuminatis glabris.

V. IOZOSTE*.

(Tetrantheræ sp. *Wall.*)

Flores dioeci, squamis gemmæ involucrati, sessiles. Perianthium sexfidum, laciniis æqualibus deciduis. Mas . . . Feminæ staminodia novem, sagittata, triplici serie, quorum sex exteriora stipitata subdimidiata, tria interiora majora subsessilia. Stigma dilatatum, lobatum. —Inflorescentia axillaris, sessilis, gemmiformis, aggregata. Folia persistentia, penninervia.

Genus haud rite cognitum, sed staminum sterilium in flore femineo formâ et structurâ satis evidens.

Iozoste rotundifolia.—Tetranthera rotundifolia *Wall. Cat.* n. 2591.

Habitat in China. Vidi exemplum ex Horto Calcuttano.—Frutex foliis ovato-subrotundis subtus glaucis.

Adnot. 1. Species nulli cognitarum arctiori vinculo conjuncta.

Adnot. 2. *Litsaeam chinensem* Blume, Bydr. p. 565. eandem puto plantam, foliis paullo longioribus (obovato-oblongis) ludentem.

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* i. e. sagittis cincta, ab ἰὸς et ζωννύω.

VI. TETRADENIA.

(Tethrantheræ spp. *Wall.* Litsaeæ sp. *Nees ab Esenb., Blum.*)

Flores dioeci. Perianthium quadri-, quinque-, vel sexpartitum laciniis subæqualibus, totis deciduis. ♂: Stamina sex, quorum quatuor vel duo interiora utrinque staminodio stipata. Antheræ quadrilocellatæ, valvulis totidem ascendentibus introrsum dehiscentes.— ♀: Filamenta sterilia quatuor vel sex, apice subincrassata, laciniis perianthii opposita. Staminodia quatuor glanduliformia, sessilia, submucronata, vel germen cingentia per paria approximata, vel, ubi sex filamenta sterilia adsunt, duobus interioribus associata. Stigma discoideum, lacerum. Bacca nuda, pedicello apice incrassato imposita.—Inflorescentia axillaris, fasciculata; gemmæ florales sessiles, geminæ vel aggregatæ, tectæ squamis dense imbricatis deciduis, quarum summæ involucrales plerumque majores. Folia persistentia, nervata, rariusve costata. Gemmæ foliiparæ multifariam perulatæ.

1. *Tetradenia foliosa;* foliis elliptico oblongis, cuspide productâ obtusâ, triplinerviis subtus glaucescentibus ramulisque glabris, gemmis florigeris solitariis geminisve.—*Tetranthera foliosa* Wall. Cat. n. 2563.

Crescit in Silhet. F. D.—Arbor, (similis *Tetradeniæ umbrosæ*).

Adnot. Memorabilis obviam est monstrositas, cujus flores, in gemmas mutati, thyrsum densum obovatum 2—3-pollicarem supradecompositum exhibent, ramis ramulisque gemmulis onustis exiguis, e squamarum patentium solito angustiorum axillis nascentibus. Sub squamulis gemmularum extremarum florum vestigia, licet fere inconspicua, observavi.

2. *Tetradenia umbrosa;* foliis ellipticis cuspide productâ obtusâ rariusve acutâ triplinerviis subtus concoloribus pallidioribus, ramulis tomentosis.

α. foliis latioribus acumine magis obtuso.—*Tetranthera umbrosa* Wall. Cat. n. 2564. ♀.

?β. foliis angustioribus, acumine longiori acutiori.—*Tetranthera pulcherrima* l. c. n. 2567. ex parte. ♀. *Lauri* species Hb. Wight. ♀.

Crescit var. α in montibus Silhet (F. D.); var. β cum exemplo *Tetradeniæ zeylanicæ* in eadem scheda Herbarii Wightiani reperi, in Dindygul, alt. ped. 2000, lectam.—Arbor.

Adnot. Var. β, quæ fortasse distinctæ speciei, differt foliis angustioribus, $2\frac{3}{4}$—4 pollices longis, $\frac{3}{4}$—$1\frac{1}{4}$ poll. latis apicem versus lentius acuminatis ipsoque apice acutis (sed etiam obtusis). Baccæ immaturæ pisi magnitudine, disco cupuliformi impositæ, in gemmæ basi subumbellatæ, pedicellis crassis. Reliqua ut in var. α.

3. *Tetradenia furfuracea;* foliis ovato-ellipticis cuspidatis triplinerviis subtus cæsio-pruinosis glabris, ramulis novellis subpubescentibus, gemmis florigeris aggregatis globosis.—*Tetranthera furfuracea* Wall. Cat. n. 2568, A, B.

Habitat in Singapur et Penang. Lecta anno 1822 a Wallichio.

Arbor præcedentium habitu, sed foliis inferne pruinâ detergibili cæsiâ tectis gemmisque floralibus pluribus in singula axilla conglomeratis primo intuitu distinguenda. Quoad foliorum formam accedit *Tetradeniis umbrosæ* et *foliosæ*, sed differt ab his, jam ubi floribus caret, colore paginæ istorum inferioris; a *Tetradeniis zeylanica* et *consimili* foliis latioribus diverso modo cuspidatis, gemmarumque florigerarum indole facili negotio distinguitur.—Planta *feminea* latet, nisi forte ea habenda sit, cujus exempla, in Penang lecta, adsunt, gemmis (an florigeris) parvis, distincte stipitatis, ad speciem solitariis basique nudis, nec totis squamatis, prædita.

4. *Tetradenia zeylanica;* foliis oblongis utrinque attenuatis acumine obtuso, triplinerviis subtus glaucis, costis petiolis ramulisque novellis tenuissime flavescenti-sericeis, gemmis florigeris globosis basi contractis.—*Litsaea zeylanica* C. G. Nees ab E. et Fr. Nees ab E. Amœn. Bot. Bonn. Fasc. I. p. 58. tab. 5. Blume Bydr. p. 559. *Tetranthera pulcherrima? Lauri* spec. Hb. Wight. e Dindygul. Wall. Cat. n. 2567, C, ex parte. *Dawul Kurundu* Act. Acad. Nat. Cur. Vol. I. App. p. 4. tab. 2. fig. 6. Am. Bot. Bonn. l. c. t. 6. f. 7.; et *Catte Coronde* l. c. f. 6. Marsh. in Ann. of Philos. 1817, Octobr. p. 243. tab. 71. f. 1. *Laurus zeylanica* flosculis verticillatis folio trinervio, *Herm. Mus. Zeyl.* p. 26.

Habitat in Zeylonia insula (Herm., Herb. Royen., Marshall). In Dindygul, altit. ped. 2000. (Hb. Wight.)—(Planta feminea latet.)

Differt a *Tetradenia umbrosa* et *foliosa* foliis angustioribus, longioribus subtus læte glaucis; a *Tetr. furfuracea* et *consimili* ramulis sericantibus, ab hac præterea gemmis florigeris basi abrupte-paucisquamatis, ab illa iisdem gemmis ad summum geminis, nec pluribus conglomeratis, majoribus, foliisque angustioribus.

5. *Tetradenia consimilis;* foliis oblongis acuminatis triplinerviis subtus cæsio-albis glabris, petiolis ramulisque novellis scabriusculis, gemmis florigeris geminis ovatis subæqualiter imbricatis.—*Tetranthera pulcherrima?* Wall. Cat. n. 2567, B. *Laurus involucrata* Roxb. Pl. Corom. II. p. 46. tab. 187?

Crescit in Kamaon. R. B.—In montium vertice (Roxb.)? Floret tempore frigido; maturat fructum Aprili (Roxb.)—Arbor habitus præcedd.—Femina latet.

Observ. *Tetranthera pallens* Don. Fl. Nep. p. 66. n. 3. hujus speciei femina esse videtur.

Adnot. 1. Species hæc ab affinibus colore cæsio paginæ inferioris distinctu facilis. Propius accedit *Tetradenia furfuracea;* hæc autem differt foliis brevioribus latioribusque, gemmisque florigeris pluribus aggregatis.

Adnot. 2. *Laurus involucrata* Roxb. l. c. vix dubium est, quin hujus sit loci. Deest inter exempla mihi tradita nomen hujus arboris, nescio quo casu. Hæc præcipua fuit causa, ut dubitationis signum adderem. Florum gemmæ solitariæ et quinquefloræ dicuntur et pinguntur, quæ geminatæ et 8—10-floræ in nostra; sed liceat suspicionem erroris vel negligentiæ cujusdam nutrire, propterea quod ramus idem in icone ex altera parte masculinos flores, ex altera fructus immaturos exhibeat, naturâ et verbis auctoris contrariis. Vereor itaque, ne pictor flores masculinos femineo ramulo ex arbitrio suo adjecerit, in exemplo ramuli masculini Roxburghiano vel deficientes vel delapsos; iconem ideo Roxburghianam femineæ plantæ esse et eo usque fidam, masculinæ suspectam, censeo, donec alia edocear. Camphoram olere totam plantam addit Roxburghius, imprimis radicem atque baccas, adspectu etiam *Lauro Camforæ* Lin. similem esse, 24—30 pedum altitudinem attingere. Baccas maturas non vidit.

6. *Tetradenia lanuginosa;* foliis oblongo-cuneatis acuminatis triplinerviis subtus glaucis floribusque lanuginosis.—*Tetranthera lanuginosa* Wall. Cat. n. 2561.

Crescit in Napalia. (Wallich. a. 1821.)—Arbor (pulchra).

7? *Tetradenia obovata;* foliis oblongis apicem versus paullo latioribus ellipticis acutis crasse penninerviis subtus glaucis costis ramulisque pulverulento-tomentosis, floribus pubescentibus.—*Tetranthera obovata* Hamilt. Wall. Cat. n. 2562, A, B. *Tetranthera Cuipala* Don Fl. Nep. p. 65.? *Laurus obovata*, Hb. Hamilt.

Habitat in Silhet. (F. D. et Hb. Hamilt.)—Arbor. Flos ♀ latet.

Variat: 1, perianthiis sexfidis hexandris, et octofidis dodecandris, staminodiis 8; 2, foliis latioribus magis ellipticis utrinque acutis, ramulis glabris.

VII. TETRANTHERA.

Flores dioeci, nonnullis hermaphroditi, involucrati. Perianthium sexpartitum, laciniis subæqualibus deciduis, vel nullis omnino, vel 3—4—5 tantum iisque parvis petaloideis. Stamina fertilia in flore sexfido novem, triplici serie, rarissime sex, duplice serie, in flore petaloideo vel nudo 12—15, rarius (in femina) 21. Antheræ ovatæ quadrilocellatæ, omnium staminum introrsum valvulis totidem adscendentibus dehiscentes. Staminodia sex, per paria staminibus tribus interioribus adjuncta, sessilia vel stipitata, glanduliformia. Stigma peltatum. Bacca tubo floris explanato, interdum laciniarum residuis prædito, imposita.—Inflorescentia axillaris, aggregata, nuda, vel e squamis gemmæ progrediens. Involucra decidua. Folia varia, paucis subopposita vel verticillata, plerisque alterna, aliis defluentia, aliis sempervirentia, penninervia. Gemmæ foliiparæ squamis paucis foliaceis.

Genus, metamorphosi perianthii, in stamina progredientis, memorabile, nec vero dividendum, cum transitus pateat, et species omnes, quas plurimas continet, optime conveniant. Conferas, quæ circa hæc sub generis sectione B (I.) animadversa sunt.

A. Foliis suboppositis vel subverticillatis. Floribus hermaphroditis.

1. *Tetranthera lancifolia* Roxb.; perianthiis sexfidis, umbellulis axillaribus fasciculato-conglomeratis brevissime pedunculatis, foliis suboppositis ellipticis cuspidatis subtus incanis, nervis ramulisque ferrugineo-tomentosis, filamentis hirsutis.—*Tetranthera lancifolia* Roxb. Wall. Cat. n. 2532.

Crescit in Sillet (F. D.).—Arbor.

Species inter *Tetrantheras* continentis terræ situ foliorum distinctissima, inter Javanicas *Tetrantheræ* (*Litsaeæ*) *ferrugineæ* Blumii proxima, tamen, ex nostra quidem sententia, diversæ.

Adnot. 1. Quoad folia et integumentum ramulorum imprimis convenit cum *T. coriacea*, hæc vero, præter folia nunquam per paria approximata vel opposita, umbellulis quoque differt omnino sessilibus, et floribus paullo majoribus extus totis sericeis subauratis, qui in *T. lancifolia* basi tantum strigoso-hirti, in ambitu limbi autem glabri reperiuntur, tum maxime filamentis glabris.

Adnot. 2. *Tetranthera* (*Litsaea*) *ferruginea* Blume, quam *Tetrantheram Blumii* appellamus ob priorem "*ferrugineæ*" nominis Brownianam speciem, differt: foliis multo majoribus, 8—9 pollices longis, 2½ poll. latis (itaque angustioribus), oblongis, acutis vel obtusis, nec acuminatis, basi fere cuneiformibus, subtus densius pubescenti-tomentosis, umbellulis 5-floris. Hanc ita describo:

Tetranthera Blumii; perianthiis sexfidis, umbellulis axillaribus fasciculato-conglomeratis brevissime pedunculatis, foliis suboppositis oblongis acutis basi acuminatis subtus pubescenti-tomentosis canis, nervis ramulisque ferrugineo-tomentosis, filamentis . . .—*Litsaea ferruginea* Blume Bydr. p. 561. *Cryptocarya ferruginea* Blume Hort. Buitenzorg, p. 65.

Crescit in montanis Javæ v. c. in Salak m. Floret Novembri et Decembri; maturat fructum Januario. *Huru Tankalak* incolis.—Vidi ramum fructigerum. Baccæ agglomeratæ, magnitudine nucis moschatæ, globosæ, cupulæ latæ extus rugoso-exasperatæ lobato-crenatæ insidentes.

2. *Tetranthera angustifolia;* perianthiis sexfidis, umbellulis in parte annotina ramuli fasciculatis nudis, foliis subverticillatis oblongo-lanceolatis cuspidato-acuminatis subtus glaucis glabrescentibus, ramulis petiolisque fulvo-tomentosis.—*Litsaea angustifolia* Blume Bydr. p. 566. *Tetranthera caduca* Hb. Hamilt. Wall. Cat. n. 2559, A, C. ♂. *Laurus Gullavara* Hb. Hamilt. e Goalpara. Wall. Cat. n. 2559, B. ♀.

Crescit ad Goalpara (Hamilton); in Sillet (H. B.).; in sylvis Salak m., Javæ insulæ (Blume). Floret Julio.—Arbor.

Adnot. 1. *Litsaea glomerata* Blum. Bydr. p. 566, cujus equidem femineum exemplum vidi, nostræ simillima, differt præsertim foliis amplioribus, 8—9 pollices longis, ultra medium 3 poll. latis, obovato-cuneiformibus, cuspide multo breviore obtusâque instructis, subtus distincte albido-tomentosulis, in costis autem ramulisque ferrugineo-tomentosis floribus magis albicanti-tomentosulis. An varietas nostræ? Etiam *Litsaea macrophylla* Blumii fortasse cum hac nostra in unam speciem consociari potest; de planta autem, a me non visa, judicare nefas duco.

Adnot. 2. Planta feminea, quam supra citavimus, differre videtur a mascula: ramis laxioribus magis tomentosis, foliisque tenuioribus magis lanuginosis, tum floribus minoribus.

B. Foliis alternis. Floribus dioecis. (*Genuinæ.*)

a. *Foliis sempervirentibus.*

(I.) Flores apetali vel subapetali, scilicet limbo vel toto in stamina converso, vel, ubi laciniæ evolvuntur, his angustis teneris basi angustioribus numero inconstante.—Inflorescentia: umbellulæ vel solitariæ vel subumbellatæ.—SEBIFERA Lour. BERRYA Klein.

Adnot. Ab omnibus hujus (*Tetrantheræ*) generis sectionibus, quin cunctis Laurinis, differunt hæ species limbi perianthii defectu, seu potius evidentissimo laciniarum ejus transitu in stamina, quæ, ubi rursus petaloidea inveniuntur, ternario inconstantive numero adsunt, distantia, minora et tenuiora, basi angustiora, apice sæpe denticulata*.)

α. Umbellulæ solitariæ.

3. *Tetranthera tomentosa* Roxb.; floribus apetalis, umbellulis axillaribus solitariis pedunculatis, foliis elliptico-oblongis utrinque acutiusculis subtus petiolis ramulisque cano-tomentosis.—*Tetranthera tomentosa* Roxb. Wall. Cat. n. 2550, A, B, C, D. *Litsaea tomentosa* Hb. Heyn. *T. japonica* ♀ Hb. Wight.

Crescit in Sirmore (Kamrup).—Arbor.

Adnot. A *Tetranthera ligustrina* limbi perianthii defectu, foliisque acutis, diversa.

4. *Tetranthera ligustrina;* floribus subapetalis, umbellulis axillaribus solitariis pedunculatis, foliis lanceolatis obtusis venoso-reticulatis glabris lucidis.—*Tetranthera laurifolia* Wall. Cat. n. 2555, C et E. *Litsaea chinensis* Hb. Heyn. *Tomicis sp.* Hb. Wight.—*Tomex Sebifera* Willd. Sp. Pl. II. 2. p. 840, in descriptione, partim, præsertim quod ad folia oblongo-lanceolata obtusa cet. attinet.

Vidi exempla ex herbariis Heyneano et Wightiano, patriâ non indicatâ.—Arbor. Fructificatio feminea latet.

Adnot. Species hæc a confinibus foliorum formâ et umbellulis solitariis lateralibus facile distinguenda.

β. Umbellulæ subumbellatæ.

5. *Tetranthera Roxburghii;* apetala, staminibus quindecim antherigeris, foliis ovato-oblongis basi acutis glabris, umbellulis subumbellatis.—*Litsaea sebifera* Pers. Syn. II. p. 4. n. 8. *Tomex Sebifera* Willd. Sp. Pl. II. 2. p. 840. n. 3. *Laurus involucrata* Retz. Obs. 6. p. 27. *Tetranthera apetala* Gærtn. de Fruct. III. p. 225. t. 222. f. 2.

Variat.: α. foliis ovatis apice angustioribus, umbellulis longe pedunculatis.—*Tetranthera apetala* Roxb. Pl. Coromand. II. p. 26. t. 147. *T. apetala* Hb. Roxb. Wall. Cat. n. 2554, A (ex parte ♀), C (ex parte ♂), D, E, G (♂). *Litsaea apetala* Pers. Syn. II. p. 4. *T. citrifolia* Juss., Spreng. Syst. Veg. II. p. 266. n. 3. *T. Panshia* et *T. Daradmeda* Hb. Hamilt. Wall. l. c.

β. foliis oblongis obovatove-oblongis basi cuneiformibus obtusis obtusissimisque, umbellulis longius pedunculatis.—*Tetranthera apetala* Wall. Cat. n. 2554, A (ex parte ♂), H (♂), I (♂) ex parte. *Tetranthera sebifera* Herb. Heyn. (ex parte).

γ. umbellulis brevi-pedunculatis, in pedunculo communi subcapitatis, floribus minoribus, foliis obtusis acutisve.—*Tetranthera apetala* Wall. Cat. l. c. B, C (ex parte ♀), F (ex parte). *T. capitata* Hb. Roxb. Wall. Cat. C. *T. sebifera* Hb. Heyn. *T. Hirana* Hb. Hamilt. e Gongachara (quoad folium). *Laurus involucrata* Hb. Madr. Wall. l. c. B.

Variat deinde ramulis junioribus petiolisque modo hirsutis (hujus loci *Tetranthera Panshia* Hb. Hamilt. ♂), modo glabriusculis, pedunculis umbellularum masculinarum nunc pedunculo communi longioribus, nunc (rarius tamen in α et β, semper in γ) brevioribus.

Arbor mediocris (polymorpha) in montibus provinciarum *Circars* dictarum (Roxburgh). Floret Junio. Vidi exemplum varietatis α in Hb. Roxb. (♂); in Hb. Wightiano; e Goalpara, et e montibus provinciæ Monghir in Herb. Hamilt. (♂); e Chittagong a Henr. Bruce lecta (♀): varietatis β in Hb. Roxb. (♂); e Sillet ♂ et ♀ (F. D.); in Hb. Heyneano: varietatis γ in Hb. Wightiano (♀), in Herb. Madrasp. (♀), et e Gongachara.—Floret Junio.

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* Genus SEBIFERA, a Loureirio optime expositum est, dum supponas, involucrum ab eodem pro perianthio acceptum esse, quo sequitur, pedicellos 8—10, filamentis nudis nec perianthio vero cinctis coronatos, tot "filamentorum adelphicorum fasciculos" fuisse declarandos; florem (sic dictum) femineum autem, "decagynum", neglectis scilicet filamentis in ambitu pistilli sterilibus. Quod si genus hoc servandum esse censeas, his notis, repugnante tamen affinitate ac dispositione partium, circumscribi posset:

SEBIFERA Lour. BERRYA Klein. Flores dioeci, involucrati. Perianthii limbus in stamina conversus, quorum tria exteriora quandoque sterilia petaloidea. Mas: Stamina antherigera quindecim, quintuplici serie, quorum tria interiora basi staminodiis binis capitatis stipata. Antheræ ovatæ, quadrilocellatæ, valvulis totidem sursum reflexis dehiscentes. Femina: Filamenta sterilia, apice lanceolata mucronata glandulosa, 15, quintuplici, vel rarius 21, septuplici serie, quorum tria exteriora petaliformia. Staminodia ut in mare. Stylus elongatus. Stigma oblique dilatatum, dentatum. Bacca monosperma, fundo calycis persistenti truncato integro demum disciformi insidens; nucleus chartaceus.—Inflorescentia: Umbellæ involucratæ, in pedunculo communi corymbosæ, axillares. Folia alterna, persistentia, penninervia.

Notandum tamen, SEBIFERÆ genus Loureirii, seu TOMICEM Willdenowii, genuinum continere typum TETRANTHERÆ Jacquini.

Nomen in lingua Telingana, *Narra Alaghij.*

Adnot. 1. Varietates α et β nullis omnino finibus tenentur. In hac umbellulæ (etiam masculinæ) sæpius a breviori pedunculo feruntur; in var. γ umbellæ semper sunt brevi-pedunculatæ, atque in femina stamina exteriora pleraque subulata absque laminæ vestigio; occurrunt vero promiscua alia cum laminæ rudimento, nec desunt inter hæc, quæ communi formæ omnino respondeant. Folia acuta in solis varietatibus α et γ observavi.

Adnot. 2. De synonyma *Sebifera glutinosa* Lour. vix dubia remanent. Quomodo enim, si *Tetrantheram monopetalam* Roxb. ante oculos habuisset, perianthium non vidisset, involucrum tetraphyllum 8—10-florum disertis verbis indicavisset? Willdenowii descriptio, l. c. exhibita, omnem nodum solvit. Descriptio partium fructificationis, e Kleinii litteris excerpta, quam eodem loco legimus, plantæ femineæ est eique apprime accommodata.—*Tetrantheram glutinosam* Blumii hujus loci non esse ex eo conjicio, quod florum structuram alienam ne verbo quidem attigerit auctor, hac in re accuratissimus.

Adnot. 3. *Tetranthera Hirana* Hb. Hamilt., e Nuni allata (Wall. Cat. n. 2554, F.) ex altera parte non est hujus loci. Adsunt sola folia, 7 pollices longa, 3 poll. lata, elliptica, utrinque obtusa, subtus pubescenti-tomentosa, pallide ferruginea, quæ *Tetrantheræ macrophyllæ* Hb. Hamilt., n. 2549, adscribenda sunt.

Adnot. 4. Glandulas 6—16 memorat Roxburghius. Equidem in multis, quos dissecui, floribus non ultra 8, quaternis paribus, offendi. Lubenter autem crederem, ubi 21 stamina sunt, quinos ordines, his geminatis præditos, 15 numero monstrare glandulas. In flore staminibus 15 instructo staminodia semper sena, in flore 16 staminibus gaudente octona inveni.

6. *Tetranthera laurifolia* Jacq.; laciniis perianthii 3—6 parvis petaloideis, foliis oblongo-cuneiformibus obtusis glaucescentibus, umbellulis subumbellatis.—*Tetranthera laurifolia* Jacq. Hort. Schœnbr. I. p. 59. t. 113. Spreng. Syst. Veg. II. p. 266. n. 1. (excl. synon. *Sebiferæ glutinosæ* Lour.). Wall. Cat. n. 2555, A. *T. apetala* Wall. Cat. n. 2554. I. (ex parte). *T. sebifera* Hb. Heyn. (ex parte). *Tomex Tetranthera* Willd. Sp. Pl. II. 2. p. 839. n. 2. *Litsaea Tetranthera* Pers. Syn. II. p. 4. n. 2. *Litsaea obtusa* Blume Bydr. p. 564?

Habitat in China (Jacquin). Vidi exemplum ex Horto bot. Calcutt. et ex Hb. Heyn. Arbor specie præcedentis, præcipue varietatis β, sed satis sibi constans. Florem femineum non vidi. Baccam magnitudine pisi majoris saturate rubram (fortasse immaturam?) exhibet Jacquinus l. c.

Adnot. Icon Jacquini plantam juniorem pingit, foliis, ut in caldariis nostris fieri solet, paullo majoribus mollioribusque præditam, sed revera exemplis horti Calcuttensis mirifice consentaneam.

(II.) Perianthium distincte sexfidum, laciniis (in flore masculo saltem) basi non angustioribus, firmioribusque.

α Umbellulæ fasciculatæ, ob pedunculos nullos vel breves subglomeratæ. (*Glomeratæ.*)

7. *Tetranthera coriacea* Heyn. Hb.; perianthio sexfido, umbellulis axillaribus sessilibus conglomeratis, foliis alternis ellipticis brevicuspidatis subtus ramulisque subtilissime tomentosis incanis, filamentis glabris.—*Tetranthera coriacea* Herb. Heyn., Wall. Cat. n. 2556. *T. myristicæfolia* Wall. Cat. n. 2548, ex parte? (e Penang, G. P.)

Crescit . . . . Vidi exempla arboris masculæ, ea autem non bene servata, ex Herb. Heyneano.

Adnot. Species hæc, ob defectum alterius sexus incertioris sedis, ad Dodecadeniam et Cylicodaphnen accedit, sed habitu et inflorescentiâ umbellulatâ (tametsi sessiles sint umbellulæ) genuinis Tetrantheris ante omnes confinis esse videbatur.

8. *Tetranthera monopetala* Roxb.; perianthio sexfido, umbellulis axillaribus fasciculatis, foliis alternis ovato-ellipticis obtuse cuspidulatis subtus ramulisque incano-tomentosis.—*Tetranthera monopetala* Roxb. Pl. Corom. II. p. 26. t. 148. Roxb. Herb. *T. macrophylla* Wall. Cat. n. 2549, A—G. *T. laurifolia* Wall. Cat. n. 2555, B. *T. reticulata fruticosa* Herb. Hamilt. *T. Hirana* Hb. Hamilt. ex parte.

Variat.: α. Umbellulis ob pedunculos abbreviatos in gemmæ basi subagglomeratis. Hujus loci exempla sunt *Catalogi Wallichiani* n. 2549, D, in regno Oude lecta.

β. Umbellulis paucioribus in fasciculo, sæpe etiam minoribus. Hujus loci exempla Herbarii Roxburghiani, et ea, quæ in Herbario Hamiltoniano nomine *Tetrantheræ reticulatæ fruticosæ* exstant, Wall. Cat. n. 2555, B, et 2549, G, ♂ et ♀, atque ea quæ in Penang lecta sunt, Wall. Cat. 2549, F, ♂, et quæ in Napalia legit Wallichius, l. c. E, ♂.

γ. Umbellulis pluribus in fasciculo majoribusque. Wall. Cat. n. 2549, C, e Chittagong ♂. His maxime respondet figura Roxburghii, supra citata.

δ. Gemmis quasi proliferis, hinc umbellulis in pedunculo communi pollicari altiorive veluti paniculato-glomerulatis, in pluribus fasciculis dispositis, aliis ad basin communis pedunculi glomerato-fasciculatis.

Arbor mediocris vallium concavitates amans, tempore calido florens (Roxb.). Vidi exemplum Herbarii Roxburghiani, Roxburghii propriâ manu inscriptum; tum alia multa, sub *T. macrophyllæ* nomine missa, e Sillet (F. D. et Hort. b. Calcutt.), e Chittagong (H. B.), ex Oude (Wallich 1825.), e Napalia (idem, 1821.), e Penang (idem, 1822.), e Habora et Budlegunj (Hamilt.), e Nuni (idem).—Floret Martio.

Cum *T. laurifolia* Jacq. nullo vinculo arctius connectitur; propius autem accedit ad *Tetrantheras japonicam* et *coriaceam*, quarum posterior umbellulis sessilibus differt, foliisque basi acutis subtusque minus tomentosis; prior autem involucellis maxime caducis, aliisque notis.

Adnot. 1. An vere distincta a *Tetranthera japonica*?

Adnot. 2. An genus proprium, ob staminodia, ut in Polyadeniis, omnibus pluribusve saltem staminibus consociata?

9. *Tetranthera glauca* Wall.; perianthio sexfido hexandro, umbellulis axillaribus glomerato-fasciculatis, foliis elliptico-oblongis acumine obtusiusculo supra glabris nitidis subtus glaucis, petiolis ramulisque tenuissime tomentosis incanis, filamentis villosis.—*Tetranthera glauca* Wall. Cat. n. 2533.

Habitat in Sillet (F. D.)—Arbor.

Integumento ramorum cano, e strigulis minutissimis adpressis, foliorum quoque paginæ inferiori inspersis, conflato, umbellulisque parvis circa foliorum axillas veluti glomeratis ad *Tetrantheras salicifoliam* et *attenuatam* accedit, sed satis diversa foliis majoribus subtus glaucis quasi pruinosis et floribus minoribus hexandris.

10. *Tetranthera attenuata* Wall.; perianthio sexfido, umbellulis axillaribus fasciculatis confertis, foliis lanceolatis oblongisve acuminatis obtusiusculisve supra lucidis subtus ramulisque angulatis apice strigoso-subsericeis canescentibus, filamentis villosis.

?α. foliis lanceolatis.—*Tetranthera salicifolia* Hb. Roxb., Wall. Cat. n. 2536, a. (ex parte ♀.)

β. foliis latioribus oblongis.—*Tetranthera attenuata* Wall. Cat. n. 2534. (ex parte). *Tetranthera laurifolia* Roxb. (nec Jacq.) ex Hb. Hamilt., Wall. Cat. n. 2535.

Crescit in Sillet (F. D.) Vidi et exempla Herbariorum Roxburghiani et Hamiltoniani.

Adnot. *Tetrantheræ salicifoliæ* adeo est similis, ut, sitne varietas an species distincta, vix dijudices, præsertim cum formæ varietatis β quæ sane plurimum differre videantur a *T. salicifolia*, in eodem ramulo obviæ, speciem ad amussim referant varietatis β *salicifoliæ*, eoque genuinæ *Tetrantheræ salicifoliæ* conjungantur.

11. *Tetranthera salicifolia* Roxb.; perianthio sexfido, umbellulis axillaribus fasciculatis confertis, foliis lanceolatis oblongisve, plerisque obtusis, opacis, subtus ramulisque angulatis strigoso-sericeis griseis, filamentis villosis.

α. foliis lanceolatis.—*Tetranthera salicifolia* Roxb. Herb. ♂. Wall. Cat. n. 2536, A ex parte, B, C. Hamilt. Herb.

β. foliis oblongis.—*Tetranthera laurifolia* Herb. Hamilt. ♀. *T. Diglotia* Herb. Hamilt. ♂. *T. attenuata* Wall. Cat. n. 2543 ex parte.

Vidi exempla varietatis α ♂ in Herb. Roxburghiano; deinde in

Herb. Hamiltoniano, in Kichakgur lecta, ♀. Varietatis β marem in Nakiswari, feminam in Kaldutea legit Hamilton; in Sillet F. D. invenit marem. Floret Januario—Aprili.—Arbor.

Adnot. 1. Hæc quidem species satis insignis ramulis sulcatis griseis et umbellis parvis in foliorum axillis quasi agglomeratis. Quoad *Tetrantheræ attenuatæ* affinitatem istum conferas titulum.

Adnot. 2. In Herbario Roxburghii nomine *T. salicifoliæ* inscriptæ duæ latent diversæ species. Mas etenim hujus est, quam *salicifoliam* diximus, femina vero ad *Tetrantheram laurifoliam* Roxburghii (non Jacq.) seu *T. attenuatam* Wallichii (i. e. spec. præcedentem) referenda.

β. Umbellulæ subsolitariæ, pedunculatæ.

12. *Tetranthera saligna;* perianthio sexfido, umbellulis axillaribus subsolitariis, foliis lanceolatis utrinque acutis glabris supra lucidis, filamentis villosis.—*Tetranthera angustifolia* Wall. Cat. n. 2537.*

Crescit in Sillet (F. D.).—Frutex? Femina non est nota.

Adnot. Species hæc ex habitu saligno, foliis fere Salicis albæ, umbellulisque parvis sparsis solitariis inter omnes facilis distinctu.

γ. Umbellulæ fasciculatæ, pedunculis propriis communi umbellularum pedunculo, e basi gemmæ orto, multo longioribus. (*Polyanthæ.*)

13. *Tetranthera polyantha* Wall.; perianthio sexfido, umbellulis axillaribus fasciculatis longe pedunculatis crebris, foliis oblongo-lanceolatis acuminatis glabris membranaceis supra lucidis, filamentis villosis.—*Tetranthera polyantha* Wall. Cat. n. 2538.

Crescit in Sillet (F. D.).—Frutex. Flos femineus latet. Species elegans, habitu saligno, florum ubertate, foliorum nitore, ramulorum gracilium comâ, odore, commendabilis.

14. *Tetranthera chartacea* Wall.; perianthio sexfido, umbellulis axillaribus longe pedunculatis fasciculatis, foliis elliptico-oblongis utrinque acutis glabris membranaceo-chartaceis, ramulis novellis strigoso-subtomentosis, filamentis (floris ♀) strigulosis.—*Tetranthera chartacea* Wall. Cat. n. 2531.

Crescit in Napalia.—Frutex (?). Mascula planta ignota.

Adnot. 1. *Tetrantheris coriaceæ* et *myristicifoliæ* affinis, notis tamen characteristicis expositis facili negotio distinguenda.

Adnot. 2. Flores, aquâ calidâ emolliti, cum ex ea trahantur chartæque emporeticæ imponantur, citissime siccescentes rigescunt simulque pulvere albicante granuloso veluti pruinâ, præsertim in pedunculo, staminibus pistilloque, inducuntur.

15. *Tetranthera læta* Wall.; perianthio sexfido, umbellulis capituliformibus axillaribus fasciculatis longe pedunculatis crebris, foliis oblongis utrinque acutis glabris subtus cæsio-albidis, filamentis villosis.—*Tetranthera læta* Wall. Cat. n. 2541.

Crescit in Sillet (F. D.).—Arbor (pulchra). Femina ignota.

Adnot. Similis *Tetrantheræ oblongæ*, sed differt abunde: foliis subtus læte cæsio-pallidis, florum copiâ, fasciculisque horum sessilibus neque pedunculo communi suffultis, pedunculis tenuioribus, umbellulis minoribus, floribus majoribus, staminibus longioribus.

δ. Umbellulæ corymbosæ, pedunculis propriis communem umbellularum pedunculum subæquantibus, vel hoc saltem distincto, ultra gemmæ basin producto.

16. *Tetranthera oblonga* Wall.; perianthio sexfido, umbellulis capituliformibus axillaribus subcorymbosis, foliis oblongo-lanceolatis utrinque acutis glabris subtus glaucescentibus, filamentis lanuginosis.—*Tetranthera oblonga* Wall. Cat. n. 2542. *Tetranthera Doshia* Don Fl. Nep. p. 65. *Tomex Doshia* Hamilt. Ms.

Habitat in Napalia, lecta a. 1821 a Wallichio. ♂ ♀. Ad Narainhetty, Napalensium (Hamilt.). Floret Novembri (Don l. c.).—Arbor.

Adnot. Hermaphroditos, seu polygamos, flores existimares, ob pistillum in antherigeris solito magis evolutum. At femina, staminibus castratis instructa, sola fructum edere videtur.

17. *Tetranthera myristicifolia* Wall.; perianthio sexfido, umbellulis axillaribus fasciculato-corymbulosis, foliis oblongis basi cuneiformibus glabris glaucis, filamentis glabris.—*Tetranthera myristicæfolia*, Wall. Cat. n. 2548 ex parte.

Crescit in Penang. Legit G. P.—Feminea planta latet. Arbor, habitu quidem *Tetrantheræ oblongæ* accedens, sed satis distincta: foliis basi, nec apice, attenuatis, rigidioribus glaucis subtus pallidioribus, et perianthio cum filamentis glabris, nec lanuginosis. A *T. coriacea*, cujus ramulus adjectus erat nostræ, non minus distare videtur ramulis glabris, foliis basi longe attenuatis subtus glaucis, petiolis profunde canaliculatis, umbellulis masculis (quas solas vidi) pedunculatis et in communi pedunculo subcorymbosis aut fasciculatis, perianthio denique, nec solis filamentis, glabris.

18. *Tetranthera nitida* Roxb.; perianthio sexfido, umbellulis axillaribus racemoso-corymbosis, foliis elliptico-oblongove-cuneiformibus obtusis glabris concoloribus, filamentis strigosis, ramulis acutangulis.—*Tetranthera nitida* Roxb. Wall. Cat. n. 2540, A et B. *Tetranthera Baula* Herb. Hamilt.

Habitat in Sillet (F. D.); in Gualpara (Hamilton).—Arbor. Flores femineos non vidi.

Adnot. 1. Inter congeneres ramulis maxime arguteque angulatis distinctissima. Quoad inflorescentiam *Tetrantheræ glabratæ* conjunctior quidem, sed totâ fere reliquâ diagnosi discedit.

Adnot. 2. Inter species Javanicas huic comparandæ sunt *Tetranthera* (*Litsaea*) *resinosa* Bl. et *angulata* Bl., quarum *prior* sane simillima, videtur tamen differre ramulis *obtuse* angulatis, et involucris fasciculatis 5—6-phyllis, nec racemosis tetraphyllis. *Litsaea angulata* Bl. ramulis quidem *argute angulatis* nostram refert, differt autem ab hac foliis acutis subtusque glaucis.

Adnot. 3. Flos intermedius umbellulæ, seu capituli 5-flori sæpe quadrifidus est, staminibus octo totidemque staminodiis.

ε. Umbellulæ distincte racemosæ.

19. *Tetranthera glabrata* Wall.; perianthio sexfido, umbellulis axillaribus racemosis, racemis paucifloris, foliis oblongo-lanceolatis utrinque acutis glabris supra glaucis, filamentis lanuginosis.—*Tetranthera glabrata* Wall. Cat. n. 2543. *T. salicifolia* Herb. Wight.

In montibus regionis Dindygul, elev. 3000 ped. legit Wightius.—Arbor (?).

Adnot. Inter affines proxima sane videtur *Tetranthera myristicifolia;* sed facile dignoscitur *T. glabrata* ab ista foliorum formâ, umbellulis racemosis floribusque duplo majoribus dense sericeis, filamentis villosis, staminum sterilium quarti ordinis serie, aliisque notis.—♀ latet.

20. *Tetranthera Panamanja* Hamilt. Hb.; perianthio sexfido, umbellulis axillaribus lateralibusque racemosis, racemis multifloris petiolo longioribus, foliis oblongis utrinque acuminatis glabris, filamentis exterioribus strigosis.—*Tetranthera Panamanja* Hb. Hamilt. Wall. Cat. n. 2553, A, B.

Crescit in Gualpara (Hamilton). Floret Julio.—Arbor (speciosa).

Adnot. Species hæc a reliquis omnibus, præter *T. glabratam*, dispositione umbellularum racemosâ, in pedunculis communibus quam pro genere longioribus, distincta, tum vero et staminodiis floris feminei filamentis 6 interioribus parallelis lateraliter in medio adfixis, nec stipitatis.

b. *Foliis deciduis.*

21.? *Tetranthera sericea* Wall.; floribus præcocibus, umbellulis infra ramulorum apices alternis approximatis, foliis annuis oblongis utrinque acuminatis venosis pedicellisque villosis.—*Tetranthera sericea* Wall. Cat. n. 2545, A, B.—A: femina, fructu foliisque ornata. B: ♂ et ♀ cum floribus absque foliis.

Habitat in Napaliæ, monte Sheopur. Floret Aprili. Lecta a. 1821 a Wallichio.—Frutex.

Adnot. Genus fortasse distinctum. Antheræ emarginatæ, stamina floris ♀ sex laminigera, gemmatio, folia decidua, distinguunt.

VIII. CYLICODAPHNE.

(Tetrantheræ sp. *Wall.*—Borbonia *Plum.*, *Gærtn.* ex parte (?)*.)

Flores dioeci, involucrati. Perianthium sexfidum (rarò octofidum) laciniis subæqualibus deciduis. ♂: Stamina antherigera duodecim

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* Nomen mutandum erat ob *Litsaeam angustifoliam* Blumii tempore priorem.

* *Borbonia* Plum. et *Borbonia cupularis* Lam. Gærtn. de Fr. et Sem. III. p. 225. t. 222. f. 1. vel hujus loci habendæ, vel ad *Camphoræ* genus referendæ.

(in flore octofido sedecim), quadruplici serie disposita, quorum sex exteriora perfecta, basi nuda, sex interiora breviora antheris imperfectioribus, basi staminodiis subgeminis capitatis compressis stipata. Antheræ quadrilocellatæ, staminum interiorum inversorum! abortu etiam bilocellatæ, ovatæ, mucronatæ, valvulis tot quot locellis gaudent, sursum reflexis, dehiscentes. Pistilli vestigia in masculo flore nulla omnino. Bacca tubo perianthii cyathiformi truncato integro semiimmersa.—Inflorescentia umbellata, umbellulis involucratis racemosis. Folia penninervia, crassa.

Adnot. Stamina 6 interiora exterioribus dimidio minora sunt. Horum tria exteriora utrinque, vel uno saltem latere, prædita sunt staminodio squamiformi brevissime stipitato laterali magisque a tergo posito, interdum etiam geminis. Intima tria filamento perbrevi instructa, antheris gaudent unilocellatis vel quadrilocellatis, locellis magis extrorsum versis. Staminodia gemina his opposita cordato-orbiculata. Interdum loco paris staminodiorum uno staminodio formæ solitæ adstat stamen veluti dimidiatum, antherâ parvâ unilocellatâ, acceditque ejus filamento ex eodem latere squamula formæ staminodii.

A Dodecadenia differt præsertim fructu glandiformi et inflorescentiâ. A plerisque autem Laurinis tetrantheris deficiente vel levissimo femineæ partis in masculo flore vestigio distinguitur.

Etymologia: κύλιξ, *calyx*, et δάφνη, *laurus*, ob formam cupulæ calycinæ fructus.

Cylicodaphne Wightiana.—Tetranthera Wightiana Wall. Cat. n. 2557, A, B.—Arbor foliis elliptico-oblongis obtusis costis subtus ramulisque angulatis ferrugineo-tomentosis; perianthio 6-fido, staminibus 12.

Variat et flore octofido staminibusque sedecim.

Habitat in sylvis Nilghiry (Deenhutty in schedis). (E. Noton.) Vidi etiam in Hb. Wight. ♂ et ♀.—Florem femineum non vidi.

IX. ACTINODAPHNE.

(Lauri sp. *Wall.*)

Flores dioeci, e gemma imbricata paniculati. Perianthium sexfidum, laciniis æqualibus lacero-persistentibus. Stamina antherigera novem perfecta, triplici serie disposita, quorum tria interiora staminodiis geminis sessilibus stipata. Antheræ oblongæ, quadrilocellatæ, omnes introrsum dehiscentes valvulis sursum reflexis conformibus. Pistilli in masculo flore rudimentum. Bacca calycis tubo cyathiformi, laciniarum residuis appendiculato, imposita.—Inflorescentia vel (♂) panicula sessilis, apice racemosa, vel (♀) simpliciter racemulosa, ante anthesin squamis gemmæ axillaris involuta. Folia verticillata, penninervia. Gemmæ foliiparæ imbricatæ, squamis pluribus chartaceis.

A Cylicodaphne differt involucri defectu et calycis fructus appendicibus tum florum quoque internâ structurâ; a Cecidodaphne defectu staminodiorum quarti ordinis, aliisque; a Beilschmiedia antheris quadrilocellatis; a Sassafras, cui sane proxima, perianthii tubo in fructus calyculum mutato, floribus rigidioribus, antherarum locellis superioribus non adeo contractis, foliis verticillatis.

Etymologia: ἀκτὶν, *radius*, et δάφνη, *laurus*, ob cupulam fructus limbi perianthii residuis radiatam.

Actinodaphne pruinosa.—Laurus pruinosa Wall. Cat. n. 2584, A, B.—Arbor? foliis verticillatis subtus cæsio-pruinosis, paniculis hirtis petiolo longioribus.

Crescit in Penang et Singapur; lecta a. 1822 a Wallichio.

SASSAFRAS.

(Laurus *Lin.*, Borbonia *Gærtn.* ex parte*.)

Flores dioeci, racemosi. Perianthium sexpartitum, membranaceum, laciniis æqualibus basi persistentibus. Stamina antherigera novem perfecta, triplici serie disposita, quorum tria interiora staminodiis geminis stipitatis liberis crassis stipata. Antheræ lineares, quadrilocellatæ, omnes introrsum dehiscentes, locellis inferioribus lateralibus, superioribus a valvulis obtectis. Pistilli rudimentum nullum. Flos femineus staminibus sterilibus tot, quot mari sunt, vel paucioribus; interioribus sæpe cum staminodiis in unum corpus coalitis. Bacca pedicello apice incrassato margineque chartaceo lobato, e perianthio residuo, cincto imposita.—Inflorescentia racemosa, subcorymbosa, a basi innovationis inter squamas deciduas progenita, pedunculata vel fasciculata. Flores flavi. Gemmæ foliiparæ perulatæ. Folia alterna, decidua (an in omnibus?).

Quibus ab Actinodaphne differat Sassafras, supra expositum.

X. ENDIANDRA *R. Br.*

Flores hermaphroditi (polygami). Perianthium sexfidum, limbo deciduo. Stamina fertilia tria interiora. Antheræ bilocellatæ, posticæ. Stamina exteriora in glandulas faucis mutata vel nulla. Stigma globosum. Bacca perianthii tubo truncato immersa (an in omnibus?).—Inflorescentia paniculata, axillaris, duabus in speciebus nutans. Gemmæ foliiparæ parvæ, laxæ, squamis foliaceis carinatis. Folia alterna, penninervia et reticulata.

Adnot. In hoc genere staminodia tria tertii ordinis perfici puto, abortientibus contrà sex exterioribus, hisque vel in glandulas abeuntibus vel omnino latentibus. Memoratu digna est figura horum staminum, quæ, filamentis brevissimis crassisque prædita, staminodiis tribus interioribus, in multis obviis, persimilia existunt, ut itaque *in isto flore* stamina quasi ad ultimam gradum evolutionis dejecta et ad angustissimum numerum redacta videantur. In nostra specie ejusmodi staminodia, seu glandulas, quales Swartzius in una specie observavit, non observavi, sed evidenti circulo glanduloso, e granulis minutis conflato, stamina ad basin cincta.

1. *Endiandra firma;* foliis ellipticis venosis utrinque reticulatis concoloribus, floribus recurvatis, annulo glanduloso obsoleto.—*Laurus firma* Wall. Catal. n. 2597.

Crescit in m. Pundua; legit F. D.—Arbor. (Folia cum petiolo 5—8 poll. longa, 1½—3 lata.)

XI. GYROCARPUS *Jacq.*

Jacq. Pl. Am. p. 282. t. 178. t. 80. Gaertn. de Fruct. et Sem. II. p. 92. t. 97. Brown Prodr. Fl. Nov. Holl. I. p. 404. ed. 2. p. 260. Spr. Gen. Pl. I. p. 112. R. et Sch. Syst. Veg. III. p. 16.

Flores polygami, in paniculam dichotomam dispositi: axillares hermaphroditi; reliqui masculi. Perianthium (4-) 6—8-fidum, laciniis aliquot in femina concrescentibus persistentibus; tubus germini adhærens. Stamina quatuor, laciniis quatuor exterioribus opposita, et ubi extima duo desunt, ad speciem binis collateralibus earum interposita. Antheræ bilocellatæ, valvulis totidem sursum reflexis dehiscentes. Staminodia quatuor, stipitata, clavata, in serie duplici magis interiori staminibus alterna. Stylus brevis; stigmate capitato. Caryopsis baccans perianthio apice bialato inclusa. Semen inversum, testâ durissimâ. Embryo inversus, cotyledonibus duplicato-reflexis radiculæ circumvolutis.—Inflorescentia ad basin innovationis terminalis, ante foliorum evolutionem in ramulo aphyllo germinans, squamis caducis, herbaceis, coriaceis singulos pedunculos fulcientibus. Paniculæ breves, dichotomæ, floribus minutis, axillaribus, præsertim inferioribus, hermaphroditis, reliquis masculis circa ramulos glomeratis, brevipedicellatis (cum filamentis et staminodiis hirsutis). Gemmæ foliaceo-squamosæ. Folia alterna, ad apicem ramorum conferta, decidua, longe petiolata, lata, nervosa.

Adnot. 1. De vera hujus generis inter Laurinas sede vix dubium est, cum Cryptocarya genus viam paret. Modus evolutionis et omnis dispositio partium floralium congruunt, neque seminis vera structura graviter repugnat.

Adnot. 2. Quoad habitum et inflorescentiam ad Urticeas hoc genus tendit, Laurinasque huic familiæ a latere confines esse demonstrat. *Dipterocarpus* quoque et *Shorea*, evolutionem calycis in fructum si spectes, accedunt.

1. *Gyrocarpus asiaticus* Willd.; foliis ovato-triangularibus subcordatis integris trilobisve glabris, ad nervos utrinque puberulis, petiolis pedunculo communi longioribus, alis fructus cuneiformi-lanceolatis angustis.—*Gyrocarpus asiaticus* Willd. Sp. Pl. IV. 2. p. 982. R. et Sch. Syst. Veg. III. p. 292. n. 2. Mant. p. 218. Brown.

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* *Borbonia globosa* Lam. Gærtn. de Fr. et Sem. III. p. 224. t. 222. f. 1. ad sinistram, quoad fructum huc spectat.

Prodr. Fl. Nov. Holl. p. 404 (260). Wall. Cat. n. 968, A, B. *G. Jacquini* Roxb. Pl. Corom. I. p. 2. t. 1. Fl. Ind. ed. Car. et Wall. I. p. 465. Pers. Syn. I. p. 145 (excl. synon. *G. americani* Jacq.) Spr. Syst. Veg. II. p. 489. *Afrag*, Le Brun Voyage en Perse, II. p. 257. c. Ic.

Crescit in regione montana oræ asiaticæ, folia demittens sub finem temporis pluvii. Floret tempore frigido, arbore foliis exutâ, quæ (nova) flores mox sequuntur.—Arbor. (Folia 5 poll. longa, $3\frac{1}{2}$ lata.) Nomen apud Telingas *Tanucoo* (Roxb.).

XII. Cassyta Lin.

(Volutella *Forskål.* Calodium *Lour.*)

Flores spicati, basi tribracteati. Perianthium sexfidum, laciniis persistentibus, tribus exterioribus nanis; tubus liber, in fructu baccatus. Stamina fertilia novem triplici ordine laciniis perianthii opposita, quorum tria interiora ad basin biglandulosa. Antheræ bilocellatæ, valvulis totidem sursum reflexis dehiscentes: tres interiores extrorsum versæ. Staminodia tria, quarti ordinis, stipitata. Stylus brevis. Stigma parvum, discoideum, umbilicatum. Caryopsis subcarnosa, tecta perianthii tubo carnoso pervio, laciniis persistentibus coronato.—Inflorescentia: Spica simplex aut composita, aut glomeriformis, basi bracteolis minutis membranaceis instructa. Flores omnino sessiles. Folia nulla. Herbæ vel suffrutices volubiles contorti, parasitici, radiculis papilliformibus fruticibus innascentes.

1. *Cassyta filiformis* Lin.; glabra spicis simplicibus pedunculatis, floribus distantibus, staminibus primi ordinis petaloideis.—*Cassyta filiformis* Lin. Sp. Pl. p. 530. Blume Bydr. p. 574. Osb. Iter, p. 243. Pers. Syn. I. p. 450. Burm. Ind. p. 92. Wall. Cat. n. 2608, A, B. *Cassyta filiformis* Willd. Sp. Pl. II. p. 487. Spr. Syst. Veg. II. p. 271. ad partem. *Calodium cochinchinense* Lour. Fl. Cochinch. ed. Willd. I. p. 302? *Cuscuta indica floribus albis stellatis*, Burm. Mus. Zeyl. p. 67. Thes. Zeyl. p. 84. *Cuscuta indica javanica, Kankong* incolis dicta, *Kleinhof* apud Burm. *Cussuta, Rombut Putri*, Rumph. Herb. Amb. V. p. 491. t. 184. f. 4. *Acatsia Valli* Rheede Hort. Mal. VII. p. 83. t. 44. Ray Suppl. p. 551.

Nomen Sanscr., *Medica Tali* (Rheed.). Malaice, *Dansidan* et *Rambut Putri* vel *Daun Tali Tali* (capillitium principissæ). Arabice, *Cuschut* et *Cuschuta*, et exinde inter Malayos et Moluccenses *Cussu* [perplexum virgultum] (*Rumph.*). Javanice, *Daun Tali* (Blume).

β. caule crassiori, spicis sæpe in gyrum contortis.

Crescit in Malabaria (Rheede); in Amboinæ littore et circa ostia fluminum (Rumph.); in montibus provinciæ Palaveram (Hb. Wight.); in fruticetis circa Bataviam (Blume). (Vidi exempla ex Herb. Madras.) Caules filiformes, glabri, valde contortuplicati.

Adnot. *Cassyta filiformis* Jacq., a *Jacquinio*, iterataque ab *Hookerio* in *Exotic Flora* nitide depicta, sic definienda: *Cassyta* (*americana*), glabra, spicis simplicibus pedunculatis, floribus distantibus, staminibus primi ordinis clavatis.—*Cassytha filiformis* Jacq. Pl. Amer. p. 115. t. 97. Hook. Exot. Fl. t. 167. *Cassyta filiformis* Willd. Spr. ad partem. *Cuscuta baccifera Barbadensium a maritimis*, Pluk. Almag. p. 126, Phytogr. t. 172. f. 2.—Crescit in India occid. (Jacq.); insula St. Vincentii (Hooker).

XIII. Cryptocarya *R. Br.*

Flores hermaphroditi, paniculati. Perianthium subinfundibuliforme, ad tubum usque sexfidum, limbo æquali deciduo. Stamina fertilia novem triplici serie, quorum tria interiora staminodio stipitato libero ad utrumque latus instructa. Antheræ oblongæ, bilocellatæ, valvulis totidem sursum reflexis dehiscentes: sex exteriores introrsum, tres interiores extrorsum conversæ. Staminodia tria substipitata, capitulo angusto acuto, in serie magis interiori. Stigma capitatum. Germen tubo perianthii immersum. Caryopsis tubo nudo clauso drupaceo perianthii obtecta.—Inflorescentia paniculata axillaris, vel et in terminalem abiens. Gemmæ foliiparæ squamis paucis foliaceis carinatis. Folia penninervia.

Genus, tubo perianthii distincto, fructuque a calycis tubo, limbo orbato, penitus recondito, longe distinctissimum.

Adnot. Baccam dicit fructum clariss. Brownius; in nostris autem fructus, proprie sic appellandus, in siccam caryopsin evidenter abit. An itaque *duo* hîc latent diversaque *genera*? Sed habitus omnium optime convenit. Clariss. Blume, "Pericarpium drupaceum tectum tubo calycis baccato" Cryptocaryæ tribuens, partem lignoso-crustaceam, a perianthio provectam, pro fructus strato externo posuisse, neque baccæ aliquid simile nisi in tunicis exterioribus floralibusque invenisse videtur.

1. *Cryptocarya floribunda;* foliis ovali-oblongis brevi-cuspidatis subtus glaucis glabris, paniculis axillaribus dichotomis in terminalem nudam abeuntibus flavescenti-tomentosis.

β. foliis ellipticis obtusis, probabiliter morbosis.—*Laurus floribunda* Wall. Cat. n. 2593, A, B.

Crescit in Sillet (F. D.), unde in Hortum bot. Calcuttensem illata est.—Arbor amœna. Folia 5—8 poll. longa (c. petiolo), $1\frac{3}{4}$—3 lata.

Adnot. An vere diversa a *Cryptocarya glaucescente* Br. Prodr. Fl. Nov. Holl. I. p. 402. ed. 2. p. 258?

2. *Cryptocarya amygdalina;* foliis ellipticis brevi-cuspidatis utrinque reticulatis concoloribus glabris, paniculis axillaribus in terminales ramorum abeuntibus strictis dichotomis tomentosis, fructibus oblongis muticis ecostatis.—*Laurus ? amygdalina* Herb. Hamilt., Wall. Cat. n. 2585.

Habitat in Patgong, lecta a cl. Hamilton d. 26 Mart. a. 1809 cum floribus et fructu maturo.—Arbor præcedentis habitu, sed notis propriis eximie distincta. Folia 5—7 poll. longa, 2—$2\frac{1}{2}$ poll. lata. Flores paullo majores ac in *Cryptocarya floribunda.*

XIV. Beilschmiedia.

(Lauri sp. *Roxb.* Tetrantheræ sp. *Wall.*)

Flores dioeci vel hermaphroditi in ramulo articulato primâ juventute squamato racemosi. Perianthium sexpartitum, laciniis æqualibus deciduis. Stamina fertilia novem, triplici serie; antheræ oblongæ, bilocellatæ, valvulis totidem adscendentibus, interiores a latere magisque extrorsum, dehiscentes. Staminodia tria ovata, substipitata in serie magis interiori cum staminibus tertiæ seriei alternantia; tria capitulata, staminibus secundæ seriei singulatim approximata; interdum etiam tria seriei exteriori respondentia. Stigma depressum, subdiscoideum. Germen bilocellatum. Bacca coriacea monosperma cum rudimento dissepimenti, perianthii basi persistenti imposita.—Inflorescentia axillaris, pedunculo communi brevi articulato, ante evolutionem squamis imbricatis deciduis uni- vel pauci-floris tecto, quarum inferiores sæpe steriles longius persistunt. Post lapsum igitur squamarum racemosi evadunt flores. Folia venosa.

Differt a Cryptocarya formâ perianthii, staminum dehiscentiâ, staminodiorum formâ situque, fructu nudo, neque tubo perianthii incluso, et inflorescentiâ.

Beilschmiedius, pharmaceuta Olaviensis, Silesius, libri utilissimi de Plantarum distributione geographica et dissertationum complurium doctarum auctor, Floræ patriæ carus, qui primus inter Germanos Jungermanniam Blasiam perfecte fructificantem observavit.

1. *Beilschmiedia Roxburghiana;* racemulis basi nudis, perianthii laciniis ovalibus.—*Laurus bilocularis** Roxb. Hort. Calc. p. 30. Wall. Cat. n. 2605.

Crescit in Tipperah, lecta a S. Harris a. 1797. Floret mense Februario, maturat fructum m. Junio. Vidi exemplum cultum ex Horto Calcuttensi.—Arbor speciosa. Folia cum petiolo unciali 6—$6\frac{1}{2}$ poll. longa, 2—$2\frac{1}{4}$ poll. lata, glabra, pennatim venosa reticulata, concoloria.

A *Beilschmiedia fagifolia* differt hæc: foliis majoribus nitidis, floribus majoribus laciniis tioribus, racemulisque majoribus, axi florente non, ut in illa, e basi gemmæ immediate prodeunte, sed pedunculo communi æquali nudo, gemmæ baseos vices gerente, sublato.

2. *Beilschmiedia fagifolia;* racemulis basi squamatis, perianthii

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* Bilocularis cognominatio non proprio accipienda sensu, cum fructus Beilschmiediæ in omni statu uniovulatus et monospermus existat. Differt autem hæc species plicâ membranæ internæ inter cotyledones prominulâ, quæ, etiamsi in aliis quoque observetur Laurinarum generibus, in isto tamen ante omnia in oculos cadit et dissepimenti falsi suspicionem movet.

laciniis lanceolato-linearibus.—*Tetranthera fagifolia* Wall. Cat. n. 2539.

Crescit in montibus provinciæ Sillet (F. D.)—Arbor, foliis 3—3½ pollices longis.

XV. CECIDODAPHNE.

(Tetrantheræ sp. *Wall.* Lauri sp. *Hamilt.*)

Flores hermaphroditi (?) e gemma galliformi terminali paniculati. Perianthium subinfundibuliforme, sexfidum, laciniis deciduis. Stamina fertilia novem, triplici serie disposita, quorum tria interiora staminodiis binis capitatis ad basin stipata. Antheræ ovatæ, quadrilocellatæ, valvulis totidem adscendentibus dehiscentes; tres interiores retro spectantes. Staminodia tria capitulo antheriformi subulato in serie magis interiori. Stigma disciforme. Fructus . . . —Inflorescentia: Gemma, in ramo vel ramulo terminalis, crassa, dense squamosa, ramis e singula squama singulis, paniculatis multifloris brevibus paniculam densam thyrsoideam subglobosam constituentibus. Folia perennantia, venosa.

Habitu proxima CRYPTOCARYÆ, cui forsan et fructu calyce obtecto conjunctior olim invenietur; sed differt antheris quadrilocellatis et inflorescentiâ densâ gallam ante anthesin referente. Ab ALSEODAPHNE, cui, sola characteris essentialis verba consideranti similis videri possit, omni habitu distat, et pistilli florumque jam inspectio sufficit, ut oculo, hac in familia modice exercitato diversissimam fore fructus perfectioris indolem eluceat.

Etymologia: κηκὶς, *galla,* et δάφνη, *laurus,* ob inflorescentiam ante anthesin galliformem.

Cecidodaphne glaucescens.—*Tetranthera glaucescens* Wall. Cat. n. 2560, A, B. *Laurus glaucescens* Hb. Hamilt.

Crescit in Sillet (Ham. et F. D.) Floret a Februario in Aprilem usque.—Arbor (alta) paniculis albo-tomentosis. Folia cum petiolo 4—6 pollices longa, 1½—2 p. lata, acuminata, basi acuta, glabra, utrinque viridia, penninervia.

Adnot. Ob stamina solito breviora, valvulas antherarum, etiam in floribus defloratis sæpe clausas et pistillum ratione staminum magis perfectum, dubius hæreo, num feminei potius sexus sint flores, quos examini subjeci, latente igitur adhuc masculâ plantâ.

XVI. MACHILUS Rumph.

(Persea *Blume.*)

Flores hermaphroditi, paniculati, nudi. Perianthium sexpartitum, chartaceum, limbo patente persistente tuboque haud mutatis. Stamina fertilia novem triplici serie, quorum tria interiora staminodiis binis stipitatis liberis ad utrumque latus stipata. Antheræ oblongæ, quadrilocellatæ, valvulis totidem adscendentibus dehiscentes, locellis sex exteriorum introrsum, trium interiorum extrorsum spectantibus, inferioribus duplo majoribus. Staminodia tria stipitata capitulo acuto antheriformi in serie interiori, dorso eglandulosa. Stigma discoideum. Bacca perianthio haud mutato patenti aut reflexo insidens.—Inflorescentia paniculata, paniculis ad basin innovationum terminalium alternatim aggregatis nudis (squamis defluentibus) corymbosis. Gemmæ foliiparæ perulatæ squamis imbricatis. Folia penninervia, venosa, venis subtilibus.

Adnot. 1. Cl. Wendland in opere præstantissimo *Botanische Beobachtungen,* Hanov. 1798, de *Lauro indica* agens, staminodia illa quarti ordinis, a se optime observata atque descripta, in arbore, solo naturali crescente, perfici atque in vera stamina abire adsumit. Contra hæc experimento in quam plurimis ramis, in solo natali decerptis, instituto, certior factus sum, naturam hac in re sibi quam maxime constare, nec unquam fere staminodia hæc ejusdem speciei in stamina transformari; quod quidem cum intra fines specierum immotâ lege teneri videatur, in generum tribuumque ampliori campo secundum Wendlandii opinionem ita evenit, ut non solum staminodia, sed vel ipsæ perianthii laciniæ in stamina evolvantur.

Adnot. 2. *Persea* genus perianthio toto deciduo differt, alia ut taceam. Vide synopsin generum.

1. *Machilus odoratissimus;* foliis lanceolatis oblongove-lanceolatis utrinque acutis glabris, paniculis compositis.

α. paniculis floribusque pubescentibus, baccis globosis.—*Laurus odoratissima* Wall. Cat. n. 2607, A ex parte, C, D, E. *Laurus indica* Lour. Fl. Cochinch. ed. Willd. I. p. 311. n. 8. *Machilus quarta species minima* Rumph. Hb. Amb. III. p. 70. t. 42. *Laurus Maderensis angustifolia pallida odoratissima* Pluk. Alm. l. c. tab. 199. fig. 2? *Laurus Champa* Hb. Hamilt. *Laurus bombycina* Hb. Hamilt.

β. paniculis floribusque glabriusculis aut sparsim puberulis, baccis ovatis vel (immaturis) oblongis.—*Laurus odoratissima* Wall. Cat. l. c. A ex parte, B, F.

Crescit (α et β) in Napalia (Wallich 1821). Var. α in Patgong et Gualpara (Hamilt.), in montibus Sillet (F. D.). Var. β in Singapur (Wallich 1822), in montibus prope Deyra-Dhoon (idem 1825). In Cochinchinæ sylvis montanis (Lour.). In Amboina (Rumph.)?—Arbor magna.

Adnot. 1. Varietates citatæ a tempore evolutionis pendere videntur multisque modis inter se confluunt. Etiam formæ, quas literis D, E, F signatas, ut dubias, exhibet Catalogus Wallichianus, ex harum sunt numero. Pedunculi et flores pro ætate exuunt pubem, et perianthia sterilia, auctâ magnitudine, nec vero reflexis laciniis, alieni quid exhibent. Hæc autem perianthia genitalibus jam carent.

Adnot. 2. *Stigmatidium elegans* Fée haud raro in hujus arboris foliis obvium.

Adnot. 3. *Laurus indica* Lin., *pseudoindica* Link, Maderæ insulæ civis, differt: foliis majoribus latioribus, perianthii laciniis ovatis, exterioribus conspicue brevioribus, quæ nostra in specie interioribus æquales sunt. OCOTEÆ autem hæc, nec PERSEÆ est generis.

2. *Machilus macranthus;* foliis ellipticis acutis subtus glaucis glabris venoso-penninerviis, paniculæ amplæ pubescentis ramulis divaricatis bifidis.—*Laurus macrantha* Wall. Cat. n. 2587.

Crescit in Nilghiry (Noton).—Arbor? Fructum *maturum* non vidi.

Species anomalæ, pedunculis paucifloris; pedicellis fructus incrassatis carnosis:

3? *Machilus peduncularis;* foliis ellipticis cuspidatis basi attenuatis, pedicellis fructus incrassatis arcuatis pedunculo umbellulæ longioribus.—*Laurus peduncularis* Wall. Cat. n. 2596. *Machilus species tertia media* Rumph. Hb. Amb. III. p. 70. tab. 41.?

Habitat in Penang (Wallich 1822).—Arbor.

Adnot. Icon Rumphii, l. c. exhibita, omnino in hanc speciem convenit; in descriptione autem folia inferiora 5—6 pollicum longitudinis esse, 5 p. latitudinis (quod certò errore calami dictum, cum in icone omnia ovalia exhibeantur folia), suprema 9—10 pollices longa, 4 lata; ad sequentem speciem hæc aptius referri posse videntur, sed fructus in pedicellis recurvatis, nec erectis, pingitur. Dubius tamen hæreo, numne rectius ad sequentem referatur synonymon Rumphianum.

4? *Machilus incrassatus;* foliis ellipticis utrinque acutis, pedicellis fructus incrassatis rectis pedunculum umbellulæ subæquantibus.—*Laurus incrassata* Jack in Malayan Miscellanies II. n. vii. p. 33? Wall. Cat. n. 2589. In Singapur legit G. Prince.—Arbor.

Observ. Quoad modum crescendi præcedenti (*M. peduncular*i) simillimus, ut, congeneres esse, dubitari nequeat, tametsi flores desint.

Adnot. Quod ad synonymon *Machili* Rumphii jam supra declaratum est, hoc nisi forte tertiam diversamque ab hac et præcedente speciem exhibeat, foliorum amplitudine (etiam pedicello, ratione ad pedunculum habitâ, breviore,) cum *M. incrassato* propius convenire, quam cum *M. pedunculari;* sed situm et directionem ejus cet. magis ad hanc accedere*.

XVII. OCOTEA *Aubl.*†

Flores hermaphroditi, paniculati, nudi. Perianthium sexfidum, subcoriaceum, limbo tuboque sub fructu persistentibus cupulam regularem sexlobam exhibentibus. Stamina fertilia novem triplici serie, quorum tria interiora staminodiis binis stipitatis liberis ad utrumque latus stipata. Antheræ oblongæ, quadrilocellatæ, valvulis totidem adscendentibus dehiscentes, locellis sex exteriorum introrsum, trium interiorum extrorsum spectantibus, inferioribus duplo majoribus. Staminodia tria stipitata capitulo acuto antheriformi in serie interiori, dorso eglandulosa. Stigma discoideum. Bacca perianthio in cupulam regularem sexfidam conniventi induratoque basi immersa.—Inflorescentia paniculata vel subcorymbosa, axillaris. Gemmæ foliiparæ parvæ, squamis paucis carinatis foliaceis hiantibus. Folia penninervia.

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* Beatus Gulielmus Jack l. c. "*Machilum medium* Rumph. Amb. III. p. 70. tab. 42." sub Lauro incrassata sua citat.—W.

† *Ocotea* genus in opere splendidissimo Humboldtiano sensu latiori sumtum diversas evolutionis formas complecti videtur.—*Ocotea guianensis* Gærtn. de Fr. et Sem. III. p. 227. t. 222. f. 2 *Nectandræ* generis est, ejusdemque bene distincti baccâ cupulæ ore contractæ immersâ soloque a vertice conspicuâ.

Adnot. Perianthium *persistens* expressis verbis poscit Aubletius. Species ideo, quæ limbo deciduo instructæ sunt, ab Ocotea remotas, generi proprio, Alseodaphnae, adscribimus.

1. *Ocotea sericea;* foliis oblongis acutis basi obtusiusculis subtus minute pubescentibus, novellis paniculisque decompositis tomentoso-canis.—*Laurus sericea* Wall. Cat. n. 2606. *Cinnamomum tomentosum* Don Fl. Nep. p. 66.

Crescit in Napalia (Wallich a. 1821.); in valle Deyra (idem a. 1825.) Ad Suembu Napalensium (Don fid. Hb. Hamilt.). Floret Aprili.—Arbor, *Machilo odoratissmo* consimilis.

Adnot. Fructum non vidi; ob summam autem specierum sequentium similitudinem huc referre arborem non dubitavi.

2. *Ocotea glaucescens;* foliis oblongo-lanceolatis utrinque acutis glaucis, paniculis thyrsoideis in corymbum terminalem dispositis tomentosis.

α. paniculis longioribus, ferrugineis.—*Laurus glaucescens* Roxb. Hort. Calcutt. p. 30. Wall. Cat. n. 2592.

β. paniculis brevioribus, incanis.—*Laurus floribunda* Wall. Cat. n. 2593, A, (ex parte, casu certe immixtis exemplis).

Crescit in Sillet, lecta primum a M. R. Smith, et in Hortum Calcuttanum illata a. 1811 (Roxb.); ibidem legit F. D. Floret Febr.—Aprili; maturat fructum Maio et Junio mensibus.—Arbor grandis et speciosa. Fructus non observatus est.

Var. *β* non differt, nisi paniculis in corymbo paucioribus, ad summum 3-pollicaribus, strictioribus et rigidulis, tomento griseo nec rufo-ferrugineo vestitis, ramis plerisque bifidis, sexfloris, floribusque præsertim ramorum inferiorum distinctius pedicellatis, paullo brevioribus, neque minus latis, griseis, nec ferrugineis.

Adnot. Species, situ panicularum satis distincta, *Ocoteæ? sericeæ* soli propinqua.

3. *Ocotea attenuata;* foliis oblongo-cuneiformibus acutis subtus reticulatis ramulisque ferrugineo-hirsutis, paniculis longe pedunculatis strictis dichotomis incanis, perianthii laciniis ellipticis.—*Laurus attenuata* Wall. Cat. n. 2600. *Persea macrophylla* var. *cuneata* Blume Bydr. p. 568.

Crescit in montibus provinciæ Sillet (F. D.).—Arbor. Fructus non visus.

Adnot. Difficile dictu, num *Ocoteæ* generis sit an *Perseæ*, cum fructus desit. Ob gemmas itaque foliaceas *Ocoteis* adjunximus, ad quas eas relegamus species, quæ perianthio cum limbo superstite in cyathi formam durescente gaudent, cum idem in Persea non mutatum totumque ad basin fructus *explanatum* perstet. Hæ autem species, quas perianthio in fructu expanso chartaceo gaudentes adhuc vidimus, gemmis etiam omnes præditæ conspiciebantur perulatis imbricatisque.

4. *Ocotea paniculata;* foliis obovato-ellipticis utrinque acutis subtus reticulatis, costis ramulis paniculisque dichotomis laxis ferrugineo-tomentosis, perianthii laciniis fructuque ovatis.—*Laurus paniculata* Wall. Cat. n. 2598, A.

β. minor, foliis basi cuneiformibus longius acutatis, paniculis paucifloris laxius puberulis.—*Laurus paniculata?* Wall. Cat. n. 2598, B.

Habitat in Napalia, lecta anno 1821 a Wallichio. Var. *β* in Hb. Wight. vidi.—Arbor. Simillima *Ocoteæ attenuatæ*. Foliorum majora 7—8 pollices longa, 3—3½ poll. lata. Var. *β* differt: foliis minoribus, basi magis attenuatis, tenuioribus, paniculæ ramis *alternis* plerisque *trifloris*, pube *tenuiori inspersis*. Sed hæc a debilitate ramuli pendere, cum omnibus notis essentialibus conveniat, accuratâ exempli Wightiani contemplatione constat.

Adnot. Persea macrophylla Blum. Bydr. p. 568. solo fructu oblongo, nec ovato, differre videtur. An vere distincta species?

5. *Ocotea pubescens;* foliis oblongis ellipticisve acuminatis basi cuneiformibus, subtus laxe reticulatis trabeculatis una cum ramulis paniculisque flaccidis dichotomis pubescentibus, perianthii laciniis interioribus ellipticis tomentosis.—*Laurus pubescens* Wall. Cat. n. 2595, (exemplum unum.)

Crescit in Napalia, ubi Wallich a. 1820 invenit.—Arbor.

Adnot. 1. Proxime accedit *Ocoteæ paniculatæ*, et, quod ad integumentum, maxime ejus varietati *β*, sed differt foliis longioribus tenuioribus, etc.—Ab *Ocotea lanceolata* differt paniculis pubescentibus, nec fere glabris, tenuioribus minusque corymboso-patentibus, tum laciniis interioribus tomentosis canescentibus; alia ut taceam.

Adnot. 2. Folia hujus arboris et ista sequentis sæpe *Stigmatidio Phyllochari* et *elegante Meyer.* ornantur, quæ unius speciei diversos status esse puto.

Adnot. 3. In collectione Wallichiana *Lauri pubescentis* nomine et numero trium diversarum specierum exempla inveni, scilicet: 1°. *Ocoteæ lanceolatæ;* 2°. *Ocoteæ*, quam *pubescentem* appellandam esse censebam; 3°. *Ocoteæ pallidæ.*

6. *Ocotea lanceolata;* foliis oblongo-lanceolatis lanceolatisve utrinque longe acuminatis subtus tenuissime pubescentibus, corymbis glabris patentibus, staminibus interioribus hirsutis.—*Laurus lanceolata* Wall. Cat. n. 2599, A—E. *Laurus lanceolaria* Roxb. Hort. Calcutt. p. 30? *Laurus pubescens* Wall. Cat. n. 2595 (ex parte.)

β. foliis longissime caudato-acuminatis.—*Laurus salicifolia* Hb. Hamilt. ? *Laurus camphorata* Hb. Hamilt.

Crescit in Sillet (F. D.) et e Sillet in Hortum Calcuttanum illata; in Napalia (Wallich a. 1820 et 1821.). Var. *β* in Napalia, Rangamati et Sivapur (Hamilt.). Floret a Februario usque ad Maium, maturatque fructus Junio et Julio. Lauri lanceolariæ, sin eadem ac nostra, linguâ Bengalensi nomen *Sundhigool.*—Arbor.

Adnot. 1. Var. *β* præter indicatam nec ullam exhibet differentiam. Exemplum, quod *Lauri camphoratæ* nomine ex Herbario Hamiltoniano adest, nihil camphorati jam exhibebat.

Adnot. 2. In Horto Calcuttano culta arbor paullo brevioribus latioribusque foliis prodiit, cæterum spontaneæ simillima.

Adnot. 3. *Ocotea declinata* Blum. Bydr. p. 512, nostræ proxima, differt foliis brevioribus, supra lucidis, subtus glaucis et glabris, paniculisque (etiam in hac corymbosis) ratione foliorum majoribus.

7. *Ocotea pallida;* foliis lanceolatis cuspidatis subtus glaucescentibus, ramulis paniculisque contractis pubescentibus, perianthii laciniis ovatis subæqualibus.—*Laurus pubescens* Wall. Cat. n. 2595 (ex parte).

Habitat in Napalia. Lecta anno 1820 a Wallichio.

Adnot. 1. Species hæc primo intuitu accedit: 1°. quoad inflorescentiam *Ocoteæ sericeæ*, quæ differt, foliis ætate subtus subtiliter reticulatis nec glaucis, paniculis omnibus aphyllis, perianthii laciniis oblongis; 2°. quoad folia *Ocoteæ lanceolatæ*, hujus vero folia subtus non glaucescunt, rami adultiores albâ epidermide splendent, paniculæ corymbosæ sunt et subdivaricatæ, floresque minores glabrescunt; 3°. *Ocoteæ pubescenti*, quæ quidem longius distat foliis subtus magis venosis, nec glaucis, basi cuneatis, apice brevicuspidatis, paniculisque laxis patulisque majoribus, floribus autem minoribus.

Adnot. 2. Et Ocoteæ pallidæ folia *Stigmatidio elegante* infestantur simulque ornantur.

8. *Ocotea ligustrina;* foliis lanceolatis utrinque acutis subtus tenuissime pubescentibus, paniculis staminibusque glabris.—*Laurus ligustrina* Wall. Cat. n. 2588.

Lecta in Singapur a Wallichio anno 1822. (Fructum non vidi.) *Ocoteæ lanceolatæ* persimilis.

XVIII. Alseodaphne.

(Lauri spp. *Wall. Cat.* Ocoteæ *H. et K., Blume.*)

Flores hermaphroditi, paniculati nudi. Perianthium sexfidum, chartaceum, limbo deciduo. Stamina fertilia novem triplici serie, quorum tria interiora staminodiis binis stipitatis compressis ad basin stipata; filamentis in pluribus dilatatis. Antheræ oblongæ, quadrilocellatæ, valvulis totidem adscendentibus dehiscentes, locellis exteriorum omnibus anticis, trium interiorum posticis. Staminodia tria stipitata capitulo (introrsum) sagittato-lanceolato in serie magis interiori, dorso eglandulosa. Stigma discoideum. Bacca monosperma, perianthii basi integræ orbiculatæ explanatæ insidens. Inflorescentia: Paniculæ, in nostris e squamarum gemmæ terminalis axillis subcorymbosæ (ut in Persea), ramis in quibusdam subumbellifloris. Gemmæ foliiparæ compactæ, squamis paucis hiantibus extrorsum tectæ. Folia penninervia, ramis (nervorum) venosis vel costæformibus.

Accedit Camphoræ, a qua differt staminodiorum interiorum capitulo longiore, angustiore, non glanduloso, gemmis non perulatis, foliis penninerviis, nec nervosis. A Cinnamomo differt calycis tubo sub fructu plano, nec cupulari, foliis non nervosis. Ab Ocotea, cui floris structurâ proxima, perianthii limbo deciduo, discum planum integrum relinquente, recedit. Inflorescentia quoque alio modo composita est.

Etymologia: ἄλσος, εος, nemus; δάφνη, laurus.

1. *Alseodaphne semecarpifolia;* foliis obovato-cuneiformibus subtus glaucis glabris venoso-penninerviis, paniculis terminalibus ramis apice cymoso-umbellatis.—*Laurus semecarpifolia* Wall. Cat. n. 2586 A.

Habitat . . . Vidi exemplum Hb. Heyn.—Arbor.

Adnot. Laurus semecarpifolia? Wall. Cat. n. 2586 B, in Nilghiry, a Noton lecta, cujus exempla absque foliis addita sunt, ad Menispermaceas pertinet, Cocculo proxima, sed fortasse distincti generis ob stamina (mascula est planta) petalis, seu sepalis tertiæ seriei, obovato-cuneatis apicem versus denticulatis ita adnata, ut suprema tantum laminæ pars libera restet, cui primo sub adspectu anthera inniti ideoque filamento petaloideo instructa esse videtur. Sepala exteriora oblonga sunt, interiora ovato-orbiculata duplo longiora et latiora, hæc omnia pulchre purpureo-reticulata. Pistilli nulla vidi vestigia.—Inflorescentia racemosa, ramis remotis apice cymosis subumbellatis, pedunculis bi- trifidis. Flores vix dimidiâ lineâ latiores.

2. *Alseodaphne grandis;* foliis cuneiformibus subtus glaucis glabris costato-penninerviis, costâ mediâ in facie superiori angustâ canaliculatâ, paniculis terminalibus ramis dichotomis.—*Laurus grandis* Wall. Cat. n. 2594, A.

Crescit in Penang (G. P.).—Arbor excelsa.

Adnot. 1. Ob summam, quæ inter hanc et *Alseodaphnen semecarpifoliam* existit affinitatem laciniarumque calycinarum a disco solubilitatem huic generi adscripsi, tametsi nec fructus nec flores perfecti adessent.

Adnot. 2. Exemplum alterum, *Lauri grandis* nomine e Singapur a. 1822 advectum, primo quidem intuitu vix differre a nostra specie videtur, at tamen dubia movebat foliorum accuratius inspectorum diversitas, quæ quidem pede longiora, in petiolum vix pollicarem, supra planum, longe decurrunt, et costâ mediâ, supra latâ et planâ, subtus carinatâ, ramisque costalibus revera costiformibus planis bisulcis aberrant. Deficiente tamen flore certiora proferre not licet. Si hujus esset generis, his verbis describi posset:

(3.?) ? *Alseodaphne costalis;* foliis cuneiformibus subtus glaucis glabris costato-penninerviis, costâ supra ramisque costalibus subtus planis . . . .—*Laurus grandis* Wall. Cat. n. 2594, B.

Crescit in Singapur; lecta a Wallichio a. 1822 absque fructu.

3 ? *Alseodaphne lucida;* foliis ovalibus coriaceis supra lucidis costato-penninerviis, costâ subtus, ramisque prominulis petiolisque furfuraceo-pubescentibus.—*Laurus ? lucida* Wall. Cat. n. 2590.

Crescit in Singapur; lecta a Wallichio anno 1822.—Arbor. Flores non inventi.

Adnot. Arborem incertæ sedis, eamque fortassis a familia Laurinarum prorsus alienam, ob antecedentium quandam, levioris scilicet momenti, similitudinem hic adjunximus.—Ad Quercus genus eam pertinere, vix dubium est.

XIX. Camphora.

(Lauri sp. *Lin., Auctorr. et Wallich.* Perseæ sp. *Spr.* Cinnamomi sp. *Fr. Nees ab Esenb.* Borboniæ spp. *Plum., Gærtn.*)

Flores hermaphroditi, paniculati, nudi. Perianthium sexfidum, chartaceum, limbo deciduo. Stamina fertilia novem triplici serie, quorum tria interiora staminodiis binis stipitatis compressis ad basin stipata. Antheræ ovatæ, quadrilocellatæ, valvulis totidem adscendentibus dehiscentes; locellis exteriorum anticis, trium interiorum posticis. Staminodia tria istis conformia in serie cum staminibus secundi ordinis subalternante; tria alia stipitata capitulo ovato glanduloso interdum distinctius antheriformi, in serie magis interiori. Stigma discoideum. Bacca monosperma, perianthii basi obconicæ integræ (subinfundibuliformi) insidens.—Variat staminibus tertiæ seriei sterilibus. Inflorescentia: Paniculæ parvæ, simplices, subtrichotomæ, axillares, vel in continuatione terminali ramuli, foliis deficientibus caducisve ad speciem composita terminalis. Gemmæ foliiparæ axillares et terminales perulatæ, squamis multis imbricatis. Folia glabra triplinervia, axillis ramorum lateralium (nervorum) in plerisque glandulosis, glandulâ immersâ, subtus poro dehiscente.

Differt ab Alseodaphne staminodiis pluribus, omnibus stipitatis complanatis, interioribus glandulosis; gemmis imbricatis; foliis nervosis. A Cinnamomo, cui foliis nervosis magis propinqua, recedit calyce fructus non truncato dentato seu inciso, et staminodiorum naturâ, gemmisque. A reliquis *tetratheciis* longius, tum calyculi fructus conditione, tum inflorescentiâ distinguitur.

Adnot. Cl. *Jacquin* in Adnott. Bot. IV. p. 221. t. 3. f. 2. *Lauro Camphoræ* filamenta tribuens capitata, capitulo intus foveis duabus excavato, antheramque didymam subrotundam luteam parvamque ex fundo cujuslibet foveolæ filamenti egredientem proprioque filamento capillari sustentatam, valvulas locellorum antheræ, et dissepimentum illud obliquum, quo locellus superior ab inferiori separatur, filamentum proprium capillare censuit,—cujus rei luculentissimo argumento sunt figuræ tabulæ supra citatæ.

1. *Camphora officinarum* Bauh.; foliis triplinerviis supra lucidis, axillis venarum glandulosis, paniculis axillaribus, terminalibusque corymbosis nudis, floribus extus glabris.—*Camphora officinarum* C. Bauh. Pin. p. 500. Blackw. t. 347. *Laurus Camphora* Lin. Mat. Med. p. 107. Mill. Dict. n. 9. Jacq. Coll. Bot. IV. p. 221. t. 3. f. 2. Willd. Sp. Pl. II. 1. p. 478. n. 3. Pers. Syn. I. p. 448. n. 4. Lour. Fl. Cochinch. I. p. 306. n. 2. Roxb. Hort. Calc. p. 89. Blume Bydr. p. 533. Wall. Cat. n. 2604. *Persea Camfora* Spr. Syst. Veg. II. p. 268. n. 5. *Cinnamomum Camphora* Fr. Nees ab Esenb. Handb. d. Med. Bot. II. p. 430. Herb. Pharm. t. 127. *Laurus Camphorifera* Kæmpf. Am. Exot. p. 770. t. 771. *Arbor camphorifera japon.* Breyn. Prodr. II. p. 16. Ic. p. 16. t. 2. Comm. Hort. I. p. 185. t. 59.

Habitat in Japonia et China, Lúm nào hiàm, Làong náo incol. Vidi exempla culta ex Horto Calcuttano hortisque Europæis compluribus. Floret Maio et Junio. Literatis *Ssio,* vulgo *Kus no ki,* aliis *Nambók* dicta (Kæmpfer).—Arbor.

2. *Camphora glandulifera;* foliis subtrinerviis supra nitidis subtus cæsio-glaucis, axillis venarum glandulosis subtus in junioribus lanuginosis, paniculis axillaribus, floribus extus pubescentibus.—*Laurus glandulifera* Wall. in Act. Soc. Med. et Phys. Calcutt. Vol. I. p. 45.* Catal. n. 2601.

Habitat in montibus Napaliæ, ubi Wallichius anno 1821 invenit.—Arbor procera.

Adnot. Differt a *Camphora officinarum* foliis majoribus, plerisque latioribus, nec splendidis, neque evidenter triplinerviis, subtus pruinoso-glaucis, poro glandularum villis obtecto minore demum fimbriato, florum paniculis majoribus, omnibus (quas vidi) axillaribus, perianthioque extus pubescenti-tomentosulo laciniis brevioribus latioribusque, odore camphorato denique multo debiliore.

3. *Camphora Parthenoxylon;* foliis subtriplinerviis opacis eglandulosis, corymbulis terminalibus sub anthesi foliolosis.—*Laurus Parthenoxylon* Jack in Mal. Misc. Vol. I. n. 5. p. 28. Wall. Cat. n. 2602. *Laurus porrecta* Roxb. Hort. Calc. p. 30. *Laurus Pseudo-Sassafras* Blume Bydr. p. 573.

Crescit in Penang (Jack et Wallich); Sumatra a C. Campbell a. 1803 in Hortum Calcuttanum illata (Roxb.); in Java insula, in sylvis provinciarum Buitenzorg et Tjanjor (Blume). In Horto Calcuttano floruit mensibus temperatis, fructumque maturum præbuit m. Maio.—Arbor valida.

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* "*Description of the Tree which produces the Nipal Camphor Wood and Sassafras Bark. With a Plate.*"—W.

Adnot. Cum *Camphora officinarum* convenit multis, sed differt: foliis majoribus, tenuioribus, minime lucidis, plerisque basi magis attenuatis, sed cuspide apicis breviori præditis, non concinne triplinerviis, nonnullis ad speciem penninerviis, sed semper tamen ramis infimis acutiori angulo egressis apicem petentibus, tum gemmis obtusioribus, ramulis florentibus brevibus subcorymbosis foliis parvis instructis, corymbulisque florum minoribus magis confertis.—Odor florum tritorum valde camphoratus.

XX. CINNAMOMUM *Burm.*, *Blum.*

(Perseæ spp. *Spreng.* Lauri spp. *Lin. et alior.*)

Flores hermaphroditi, seu potius polygami, paniculati vel fasciculati, nudi. Perianthium sexfidum, coriaceum, limbi parte superiore, vel rarius toto limbo, in tubo cupuliformi deciduâ. Stamina fertilia novem triplici serie, quorum tria interiora staminodiis binis sessilibus granduliformibus ad basin stipata. Antheræ ovatæ, quadrilocellatæ, valvulis totidem adscendentibus dehiscentes, locellis inferioribus magis lateralibus; tres interiores extrorsum versæ. Staminodia tria capitulo ovato in serie magis interiori. Stigma discoideum. Bacca monosperma, basi perianthii cupuliformi margine ob partem inferam laciniarum persistentem sexfidâ suffulta.—Inflorescentia paniculata, trichotoma, rariusve, ob ramos abbreviatos, in fasciculum redacta, non involucrata, axillaris vel terminalis. Folia nervosa, in plerisque per paria approximata vel subopposita. (Gemmæ foliiparæ non squamatim imbricatæ.)

Adnot. Ab omnibus Laurinis CINNAMOMI species distinguuntur laciniis perianthii in plerisque ad dimidium tantum deciduis, parte inferiori induratâ restante, quo evenit, ut cupula truncata quidem, sed tamen sexfido margine in conspectum veniat. Summitas laciniæ suturâ arcuatâ discedit, sub anthesi non conspicuâ, mox autem, cum tubus cum laciniarum parte inferiore durescat, lineæ paullulum elevatæ formâ apparet, a qua superior pars laciniæ introrsum flexa per aliquod tempus perstat, donec processu temporis a basi penitus separetur; in paucis tota quidem lacinia perstat, sed linea separationis non minus evidens, dubium non relinquit, quin possit saltem, casu, vel naturâ saltem viam monstrante, spontanea evenire solutio.

1. *Cinnamomum obtusifolium;* ramis obtuse tetragonis glabris, foliis elliptico-oblongis apice sphacelatis basi acutis triplinerviis arcuato-reticulatis, paniculis terminalibus corymbosis, laciniis calycis cum fructu persistentibus.—*Laurus obtusifolia* Roxb. Hort. Beng. p. 30. Wall. Cat. n. 2574 A et C. *Laurus Bejolgota* Hamilt. in Linn. Transact. xiii. 2. p. 559 (excl. synon. *Lauri malabathricæ* Hort. Beng.). Spr. Syst. Veg. ii. p. 265. n. 3.

β. ♀, antheris nullis, paniculis thyrsoideis.—*Laurus macrophylla,* an *L. obtusifolia* Roxb.? Wall. Cat. n. 2575. *Katou Karua* Rheed. Hort. Mal. v. p. 105. t. 53?

Habitat in sylvis Kamrupæ (Rungpur) ad Tistam fluvium prope Patgong (Hamilt.); in Sillet, a D. S. lecta (Wallich).—*β.* in Horto Calcuttæ e Sillet illata. Floret Januario et Februario; maturescunt fructus Julio et Augusto mensibus. Nomen Benghalensium *Bejolghota* (Hamilt.), *Kintun* (Roxb.).—Arbor magna.

Adnot. Mirum, arborem "Katou Karua," secundum Rheedii adnotationes vulgarem et cujus cortex "odoris saporisque cinnamomi" haud infrequenti usu haberi videbatur, nunc penitus nos latere, neque inter tot, quot Wallichius aliique strenuissimi observatores ex India orientali retulere, ullum adesse exemplum, quod Katou Karuæ iconi atque descriptioni omni numero conveniat. *C. obtusifolii* cortex fuscus insipidus fere, odore, cum dissecetur, Cinnamomi fugacissimo.

2. *Cinnamomum Bazania;* ramis acute angulatis glabris, foliis elliptico-oblongis apice sphacelatis basi acutis triplinerviis arcuato-reticulatis, paniculis axillaribus terminalibusque solitariis angustis, laciniis calycis cum fructu persistentibus.—*Laurus Bazania* Hamilt. in Act. Soc. Lin. Lond. xiii. 2. p. 560. *Laurus obtusifolia* Wall. Cat. n. 2574 B.

Habitat in montibus Napaliæ superioribus prope Cosam fluvium (Hamilt.), lectum Septembri 1810 cum floribus defloratis (Hb. Hamilt.). Nomen apud indigenas: *Bazania.*—Arbor simillima præcedenti, ejusque fortasse varietas.

3. *Cinnamomum iners* Reinw.; ramis teretibus glabris, foliis elliptico- lanceolatove-oblongis basi acutis apice subattenuatis obtusis triplinerviis subaveniis, paniculis compositis axillaribus terminalibusque pedunculatis, floribus sericeis, laciniis infra apicem deciduis.—*Cinnamomum iners* Reinw. Blume Bydr. p. 570. *Laurus iners* Reinw. in litt. *Laurus Malabathrum* Wall. Cat. n. 2583 A (ex parte). Variat perianthio novemfido dodecandro.

Crescit in Penang (Wallich); in fruticetis montanis Javæ (Reinwardt, Blume).—Frutex?

4. *Cinnamomum dubium;* ramis teretibus glabris, foliis (superioribus) ovatis apice attenuatis basi obtusis triplinerviis subaveniis, paniculis axillaribus subterminalibusque pedunculatis subsimplicibus parvis, floribus sericeis, laciniis ovatis acutis.—*Laurus dubia* Wall. Cat. n. 2571. *Laurus Cassia* Hb. Wight.

Habitat . . . Vidi exemplum Herbarii Wightiani, maxime incompletum, at nulli præcedentium apte conferendum, nisi forte *Cinnamomi inertis* sit varietas. Cortex inodorus.

5. *Cinnamomum eucalyptoides;* ramis teretibus glabris, foliis inferioribus elliptico-oblongis, superioribus subovatis basi acutis apice subattenuatis obtusis trinerviis subaveniis, paniculis subterminalibus axillaribusque sessilibus, floribus argenteo-sericeis, laciniis obovato-cuneiformibus medio deciduis.—*Laurus malabathrica* Roxb. Hort. Calc. p. 30. Wall. Cat. n. 2583 B. *Laurus nitida* Hb. Hamilt. Wall. Cat. n. 2582 C.

Variat perianthio quadrifido, staminibus quinque (scilicet 3 exterioribus et 2 interioribus, quorum alterum staminodio singulo alterum geminis ad basin instructum est), et staminodiis liberis interioribus duobus oppositis.

Vidi exempla culta ex Horto Calcutt.—Arbor. Sapor et odor foliorum fortis et acris caryophyllorum cum levi camphoræ tinctura. Baccam non vidi. Media quasi species inter *Cinnamomum iners* et *nitidum,* ut ægre distinguas.

Adnot. 1. Flores hujus speciei anomali, quadrifidi pentandri ad dubiam illam Katou Karuam Rheedii alludere videntur, cujusmodi flores certò et in aliis Cinnamomorum speciebus inveniuntur.

Adnot. 2. Hujus quoque arboris folia (ut ista *Cinnamomi obtusifolii, C. Tamalæ* aliorumque) inter *Folia Malabathri* officinarum recensenda esse, neque immerito eam Malabathri nomine a Roxburghio proponi, experimento, in pharmacopolarum tabernis instituto, edoctus sum.

6. *Cinnamomum nitidum;* ramis teretibus glabris, foliis ovato-ellipticis basi apiceque subattenuato-obtusis triplinerviis obsolete venulosis, superioribus majoribus, paniculis subterminalibus axillaribusque, inferioribus sessilibus elongatis, floribus argenteo-sericeis, laciniis ellipticis medio deciduis.—*Cinnamomum nitidum* Hook. Exot. Fl. tab. 176. (excl. synon. *Cinnamomi Cassiæ* Nees ab E. Disput.)? *Laurus nitida* Roxb. Hort. Calc. p. 30. Wall. Cat. n. 2582 A.

Habitat in Sumatra (Roxb.); a Carolo Campbell a. 1802 in Hortum Calcuttanum illatum. Floret Januario et Februario, maturat fructus Maio et Junio.—Arbor. Nomen Malaicum: *Coolit manes* (Roxb., Marsden). Corticis odor saporque cinnamomeus.

Adnot. 1. *Cinnamomi Zeylanici* varietati *α* adeo similis est hæc arbor, ut nisi plurimam fidem tribuendam censerem viris, qui utramque arborem in eodem horto sub dio crescentem per plures annos observavere, distinctamque esse speciem declaravere, ipso etiam Hookero in libro citato annuente, varietatis loco lubentius posuissem. Ex altera autem parte accedit, quoad inflorescentiam, *Cinnamomo eucalyptoidi,* differt autem odore et sapore corticis.

Adnot. 2. Icon cl. Hookeri paniculas sistit, ut decet plantam in caldario nutritam, minores, depauperatas, nec basi divisas, et staminodia geminata stipitata. Quæ quidem, præsertim cum folia elliptico-lanceolata et ad apicem usque nervosa descripta (neque vero in icone depicta) memineris, magis cum *C. eucalyptoide* nostro, quam cum *C. nitido* convenire videntur; obstat autem, quod *cinnamomi* ex hac arbore parati mentionem repetat, nullâ adnotatione additâ, tametsi foliorum tantum, neque corticis, odorem et saporem ex propria observatione, adeoque caryophyllaceum sane magis quam cinnamomeum pro nota adjiciat. Cum Lauri nitidæ Herbarii Hamiltoniani in Horto Calcuttano decerptum exemplum omnino ejusdem arboris sit, cujus alterum ramulum, *Lauri Malabathricæ* nomine inscriptum, Herbarium Wallichianum monstrat, dubia, ex his mota, non nisi triplici modo solvi possunt: primo, cum statuas, eandem arborem non solum foliis floribusque diversis, sed etiam corticis sapore, nunc caryophyllaceo nunc cinnamomeo esse præditam, quod sane legibus naturæ non consentaneum; secundo cum aliâ ætate caryophyllum, aliâ autem cinnamomum olere posse concedas; tertio denique, quod mihi quidem ante omnia placet, quærendo, numne arbores diversæ, eodem nomine inscriptæ, in amplissimo isto horto exstiterint, quarum surculi et ramuli vario tempore in Herbaria et Hortos delata, difficultates istas, non nisi in loco natali resolvendas, excitavere.

7. *Cinnamomum Zeylanicum;* ramis subtetragonis glabris, foliis ovatis ovatove-oblongis in acumen obtusum productis triplinerviis trinerviisve subtus reticulatis glabris, superioribus minoribus, paniculis terminalibus axillaribusque pedunculatis, floribus cano-sericeis, laciniis oblongis medio deciduis.

α. foliis subcordatis ovatis acumine obtuso.—*Cinnamomum Zeylanicum* var. β Blume Bydr. p. 569. *Laurus Cinnamomum β* Nees ab Esenb. Fratr. Disp. de Cinnam. p. 50. t. 2. f. B.

β. foliis ovatis vel ovato-oblongis obtusis aut brevissime obtusissimeque cuspidatis; (1.) cortice odorato cinnamomeo.—*Cinnamomum Zeylanicum* Blume Bydr. p. 568. Fr. N. ab E. Handb. d. Med. Pharm. Bot. II. p. 420. *Laurus Cinnamomum* N. ab E. Frr. Disp. p. 48. t. 2. f. A cum omnibus synonymis. *Persea Cinnamomum* Spr. Syst. Veg. p. 267. n. 1. Link Handb. I. p. 388. *Laurus Cinnamomum* Wall. Cat. n. 2573 B. ex parte. *Laurus nitida* Hb. Heyn. Wall. Cat. n. 2582 B. *Laurus Malabathrum* Wall. Cat. n. 2583 C. *Laurus Culitlaban* Hb. Hamilt.

(?2.) cortice inodoro insipido vel vix aromatico.—*Laurus Cinnamomum* Hb. Madrasp. et Wight. Wall. Cat. n. 2573 C. D.

γ. foliis oblongis aut ellipticis apice longius attenuatis, basi acutis.—*Laurus Cassia* Hamilton in Linn. Transact. XIII. 2. p. 555 et Linn. Mat. Med. p. 64. Sp. Pl. I. p. 369. Syst. Nat. ed. Hal. a. 1760. p. 1010. Sp. Pl. ed. Willd. II. 1. p. 477, cum Karua Rheed. Mal. I. p. 107. t. 57 et aliis omnibus synon. sub *Lauro Cassia* a N. ab E. Frr. l. c. p. 53 allatis, præter sequentia: *Laurum Cinnamomum* Lour. et Andr., *Laurum Cassiam* Ait. etc. et *Laurum Malabathrum* Reinw., quæ cunctæ ad aliam speciem, *Cinnamomum aromaticum* appellandam, spectant, addendo autem synon.: *Cassia cinnamomea sylvestris pigrior* etc. Pluk. Alm. p. 88. Tum *Laurus Cinnamomum β angustifolium* Roxb. Hort. Calcutt. p. 30. *Laurus Cinnamomum* Wall. Cat. n. 2573 B, ex parte. *Laurus Malabathrum* Wall. Cat. n. 2583 A, ex parte. *Laurus rigida* Wall. Cat. n. 2570. *Cinnamomum perpetuo florens* etc. Burm. Thes. Zeyl. p. 63. t. 28.

δ. floribus octofidis, staminibus fertilibus 12, staminodiis geminatis 8, interioribus 4.

Crescit var. α culta in Java insula (Blume); β spontanea in Zeylona, culta in Horto Calcutt., in Java pluribusque idoneis terris utriusque orbis tropicis, frequens etiam in hortis nostris; γ quasi spontanea "pro sylvestri tamen non habenda" (Rheed. H. Mal. v. p. 105.) in Indiæ orientalis continente, probabiliter a Belgis, cum Zeylonam in ditione tenerent, ut levioris pretii species, exteris concessa. Vidi exempla in Penang a Wallichio anno 1822, et in montibus provinciæ Sillet a F. D. lecta, et alia ex Horto Calcuttano allata. Var. δ in var. γ observavi. Floret Januario et Februario, fructum perficit Junio et Julio mensibus.

Nomen apud Bengalenses *Dar cheeni* (Roxb.).—Arbor humilis vel frutex.

Adnot. 1. Var. β. exempla inodora, cum ad normam conveniant, separari non possunt, probabiliter ætate exhausta, cum ex antiquis herbariis proficiscantur. Mirum tamen, nam Royeniana illa, quæ in Disp. de Cinnamomo descripsimus, multo vetustiora, integrâ in hunc diem gaudent virtute aromaticâ. Folia illis inodoris pleraque quinquenervia, neque vero hoc magis, ac in reliquis multis, nullâque constanti regulâ.

Adnot. 2. Exempla var. γ, sponte, vel quasi sponte, in Sillet et Penang nata, rigiditate foliorum et panicularum differunt, foliisque paullo longius acuminatis, ut fieri solet in plantis neglectis. Hæc autem maxime ad *Karuam* Rheedii accedunt, sed, si quis distinguere charactere specifico tentabit, certò in ipso opere operam perditum iri sentiet.

Adnot. 3. In Herb. Wightiano *Lauri Cinnamomi* nomine ramus exstat singularis notæ, sed flore fructuque expers . . . ad var. γ Cinnamomi Zeylanici appropinquans; in montibus Dindygul lectus. Hujus loci ?*Laurus Cinnamomum* Hb. Wight.? Wall. Cat. n. 2573 E.

Observ. Cum Disputationem de Cinnamomo conscriberemus, ante omnia id probare studebamus, Laurum, quam tunc temporis in hortis plerisque Cinnamomi nomine venditabant, Laurum Cinnamomum Linnei non esse, sed illam potius quam Laurum Cassiam declaraverant in libro, qui *Botanical Magazine* inscribitur, veram esse *Laurum Cinnamomum* Linnei. Idque re verâ sic esse, ut diximus, nunc extra omne dubium positum est. Ab altera parte, cum ea, quam in hortis L. Cinnamomum appellare consueverant, præstantissimi odoris et saporis species, Lauro, "Karua" a Rheedio dictæ, satis similis esse videretur, nobisque persuasum esset, hanc speciem hortensem ex India orientali ad nos pervenisse, collectis omnibus, quæ veteres et recentiores, præsertim a Linnei temporibus de Cassia tradidere, hanc Linneanam Laurum, Cassiam dictam, ob synonymon Rheedianum, eandem esse ac illam quam diximus, in hortis obviam, statuentes, lapsi sumus. Patet enim ex iis, quæ docte cl. Hamiltonius de ea re disseruit in Actis Linnæanæ Societatis, XIII. 2. p. 550 sqq., *Karuam* Rheedii, et *Laurum Cassiam* eorum qui hunc sequuntur, varietatem esse *Lauri Cinnamomi* Lin. seu *Cinnamomi Zeylanici* angustifoliam, in plagis continentalibus Indiæ orientalis non tam spontaneam, quam efferatam et quasi sponte nascentem. Quæ quidem multis exemplis, a Wallichio advectis, satis superque demonstrantur ipsisque verbis Rheedianis confirmantur. Neque ullum ejus speciei, quam "Laurum Cassiam Linnei" l. c. appellavimus, exemplum inter plantas Wallichianas exstat; habemus autem sicca specimina, a cl. Blumio e Java allata, quibus patet, hanc speciem, e China in Javam delatam, veram esse Cinnamomi chinensis, ab Hamiltonio l. c. laudati et perperam a Lauro Cubeba Lour. derivati matrem. Quæ cum ita sint, veterum scriptorum ante Linneum de Cassia lignea sententiæ pleræque dubiæ fiunt semperque manebunt, cum nemini constet, utrum de Cinnamomo e China inter merces allato, an potius de Cinnamomi Malabariæ indigenæ specie sermo sit. *Linnei* autem *Laurus Cassia*, et omnium eorum, qui a Rheedio hausere, cum var. γ *Cinnamomi*, quod *Zeylanicum* dixi, merito conjungitur. Novum igitur nomen invenire necesse est præstanti illi Sinensium arbori cinnamomiferæ, quam recentiores plurimis novisque dubiis vexaverunt. Nobis erit:

Cinnamomum aromaticum; ramulis angulatis petiolisque striguloso-tomentosis, foliis oblongis utrinque acutiusculis subtus arcuato-venulosis triplinerviis nervis ad apicem folii evanescentibus, paniculis angustis sericeis.—*Laurus Cassia* N. ab E. Frr. Disp. p. 53. t. 3. (excl. pll. synon.) Ait. Hort. Kew. II. p. 427. Hornem. Hort. Havn. Suppl. p. 134. Dierb. Handb. d. Med. Pharm. Bot. p. 182. Virey Hist. Nat. des Medic. p. 163. *Persea Cassia* Spr. Syst. Veg. II. p. 267. Link Handb. I. p. 388. *Cinnamomum Cassia* Blume Bydr. p. 570. Fr. N. ab E. Handb. d. Med. Pharm. Bot. I. p. 424. *Laurus Cinnamomum* Lour. Fl. Cochinch. ed. Willd. I. p. 305. Andr. Repos. t. 595. *Laurus Malabathrum* Reinw. in litt.

Habitat in China. Vidi exempla Javanica culta, et hortensia (Europæa).

8. *Cinnamomum sulphuratum;* ramis tetragonis petiolisque ac paniculis sulphureo-sericeis, foliis ovatis ellipticisve apice brevi obtuso prominulo, triplinerviis subtus reticulatis, junioribus minutim pubescentibus, superioribus minoribus paniculis axillaribus pedunculatis, laciniis perianthii ovalibus.—*Laurus Cassia?* Hb. Heyn. *Laurus Malabathrum*? Wall. Cat. n. 2583 D. *Cinnamomum javanicum* Blume Bydr. p. 570?

Vidi exemplum ex Herb. Heyneano.—Fructum non observavi. *Cinnamomo Zeylanico β* adeo congrua species, ut vix distinguas. Diversa tamen videtur.

9. *Cinnamomum Tamala* Fr. N. ab E.; ramis subteretibus, junioribus pubescenti-scabris, foliis oblongo-lanceolatis acuminatis basi acutis glabris triplinerviis, nervo medio infra apicem enervi, paniculis subterminalibus axillaribusque pedunculatis divaricatis, perianthii campanulati laciniis obovatis acutiusculis utrinque cano-sericeis infra medium deciduis.—*Cinnamomum Tamala* Fr. N. ab E. Handb. d. Med. Ph. Bot. II. p. 426. *Laurus Tamala* Hamilt. in Act. Soc. Linn. Lond. XIII. 2. p. 555. (excl. synon. *Lauri Cassiæ* Hort. Beng., quæ ad *Cinnamomum albiflorum* pertinet.) *Persea Tamala* Spr. Syst. Veg. II. p. 268. n. 4. *Laurus Cassia* Lin. Wall. Cat. n. 2580 B. *Laurus albiflora* Wall. Cat. n. 2569 C. *Cassia cinnamomea strictiore folio, ignobilior, cujus folium est Malabathrum seu Tamalabathrum angustifolium, in officinis frequens* Pluk. Alm. p. 89.

Clariss. Hamiltonius, teste Herbario, legit in Derwani et Gongachora, cultamque in hortis Camrupæ (Rungpur); in Sillet F. D. invenit.—Floret Martio, fructusque sub finem Aprilis et Maio mense perficit. Vidi exempla Hamiltoniana.

Nomen inter Bengalenses *Taj* (*Tadsch*).—Arbor mediocris. Corticis odor et sapor cinnamomi; foliorum caryophyllini.

10. *Cinnamomum albiflorum;* ramulis tetragonis, junioribus scabriusculis, foliis oblongis ovatove-oblongis acuminatis basi acutis glabris valide triplinerviis subtus glaucescentibus, nervo medio infra apicem nervuloso, paniculis terminalibus axillaribusque subfasciculatis ramis trifloris, perianthii patentis laciniis ovali-oblongis intus staminibusque candido-sericeis infra medium deciduis.—*Laurus albiflora* Wall. Cat. n. 2569 A. et E. *Laurus Soncaurium* Hamilt. in Act. Soc. Linn. Lond. XIII. 2. p. 557, et in ej. Hb. Spr. Syst. Veg. II. p. 266. n. 20. *Laurus Cassia* Roxb. Cat. Hort. Bengal. p. 30. Wall. Cat. n. 2580 A. *Laurus triplinervia* Reinw. in litt. *Cinnamomum Cassia* Don Fl. Nep. p. 67. *Cinnamomum camphoratum* Blume Bydr. p. 571. *Nieke Coronde*, Hist. Cinn. in Act. Ac. N. Cur. vol. 1. App. p. 5. N. ab E. Frr. Disp. de Cinn. p. 64. t. 6. f. 6 (Ic. ex Act. Ac. N. C. repetita.)

β. foliorum nervis lateralibus plerumque prope basin bifidis, nervulo tenui utrinque juxta basin accedente.—*Laurus albiflora* Wall. Cat. n. 2569 B. et D. *Laurus Soilyana* Hamilt. l. c. p. 558. Spr. l. c. p. 266. n. 22.

Crescit in montibus Napaliæ superioribus ad Cosam fluvium (Hamilt.); Palpa Nepaliæ et montes Majukani (ejusd. Herb.); in Horto Calcuttano, a. 1796 ex India allata (Roxb.). Var. *β* ab Hamiltonio Rungpuriæ in horto lecta est et a Kamrup in Srinaghur, ab utroque absque flore et fructu.—In Javæ insulæ provinciarum occidentalium sylvis montanis cl. Reinwardt et Blume invenerunt. Floret a Februario in Aprilem usque; fructum fert Julio et Augusto mensibus (Roxb.).—Nomen apud Bengalenses *Tej* (Roxb.).—Fructum non vidi. —Arbor speciosa, *C. Tamalæ* admodum similis, sed certò diversa. Cortex fuscus, in ramis adultis (et radice) crassus, odore et sapore camphorato acri, in ramulis juvenilibus singulari, e camphora cum cinnamomo mixto dulci et mucilaginoso.

Adnot. 1. Var. *β* plantam juvenilem vel ramos steriles vegetosque sistit.

Adnot. 2. A *Cinnamomo Tamala* præter folia floresque differt odore et sapore corticis.

11. *Cinnamomum dulce;* ramulis teretibus glabris, foliis oblongis obtuse acuminatis basi acutis glabris concoloribus triplinerviis, nervis lateralibus costâque apicem versus venuloso-ramificatis tenuibus, paniculis axillaribus terminalibusque ramis trifloris, perianthii patentis laciniis ovali-oblongis medio deciduis.—*Laurus dulcis* Roxb. Hort. Beng. p. 30. Wall. Cat. n. 2581 A, B. *Cinnamomum chinense* Blume Bydr. p. 569. *Laurus Burmanni* N. ab E. Frr. Disp. de Cinn. p. 57. t. 4. f. 1 (descriptio quantum ad exemplum Hb. Willdenowiani respicit.)

Habitat in China. Vidi exemplum Horti Calcutt. cum Roxburghiano Herbario collatum; alterum in Herb. Willdenowiano.—Simile habitu *Cinnamomo albifloro*. Corticis sapor et odor cinnamomi debilissimus.

Adnot. 1. Inter species "foliis alternis" præditas posuit hoc *dulce* Cinnamomum Roxburghius in Horto Bengalensi, l. c., quod quidem non magis isti, quam pluribus reliquis, v. c. *C. albifloro* et *C. Tamalæ* convenit. Oppositiones foliorum in his, cunctisque CINNAMOMI generis arboribus ejusmodi sunt, ut ubicunque lætior vegetatio intervalla nodorum augeat, ipsa etiam intervalla foliorum eorundem parium, in iis, quæ opposita dicuntur, ad minimum spatii redacta, in conspectum rursus veniant et primum quidem folia per paria sibi proxime conjuncta, mox autem, ulterius increscente nisu partes distrahendi, alterna communi sensu et fere æquis intervallis ea distantia procedant, diverg. modo $\frac{1}{3}$, modo etiam $\frac{2}{5}$.

Adnot. 2. In Disputatione de Cinnamomo l. c. duas diversasque species errore confudimus, scilicet Cinnamomum hoc *dulce* Roxburghii, ex Herbario Willdenowiano desumtum, et *Cinnamomum Kiamis* jam exponendum.

Quæstionem de Cinnamomo perpetuo florente Burmanni nunc, ut plane otiosam mittimus, etsi magis probabile nobis videatur, hunc Thes. Zeylanici locum ad *Cinnamomum Zeylanicum γ. Cassiam* trahi posse. Flores 5-fidos dictos nihil moror. Sed utrum fructus, inferi et umbilicati dicti ad exemplum, quod l. c. floribus gaudens depictum exhibetur vere referendi, an casu fuerint intrusi (cum planta non nisi in herbario observata sit a Burmanno), dirimi jam non potest.

Cinnamomum Kiamis; ramulis acute tetragonis, novellis pubescenti-scabris, foliis ovali-lanceolatis utrinque acutis glabris subtus cæsio-glaucis triplinerviis nervis lateralibus costâque mediâ apicem versus venuloso-ramificatis, paniculis axillaribus trifidis paucifloris, perianthii patentis laciniis oblongis supra basin deciduis.—*Cinnamomum Burmanni* Blume Bydr. p. 569. Fr. N. ab E. Handb. d. Med. Pharm. Bot. II. p. 424. *Laurus Burmanni* N. ab E. Frr. de Cinnam. p. 57. (ex parte), t. 4. f. 2.

Habitat in sylvis montanis provinciarum occidentalium Javæ (Blume). Floret Decembri.—Nomen apud indigenas, *Kiamis*. Corticis crassi fusci odor et sapor singularis, dulcis, adstringens, Alyxiæ subsimilis.

Adnot. 1. *Cinnamomum pauciflorum*, proxime isti confine, differt foliis latioribus longe cuspidatis simpliciter triplinerviis, pedunculis subtrifloris, cupulâ fructus truncatâ.

Adnot. 2. Ex hac arbore *Corticis Massoi* altera species colligitur, secundum Waitzium, Mater. Med. Javan. ed. Fisch. p. 21.; sed prior illa hujus corticis species, quam Rumphius describit (Herb. Amb. II. p. 62.), diversæ est arboris, in Nova Guinea crescentis, nec Cinnamomi generis.

12. *Cinnamomum pauciflorum;* ramulis quadrangularibus glabris, foliis elliptico-ovatis longe cuspidatis glabris subtus glaucis valide triplinerviis nervis apicem versus evanescentibus, pedunculis axillaribus compressis trifloris, perianthii patentis laciniis oblongo-cuneiformibus juxta basin deciduis.—*Laurus pauciflora* Wall. Cat. n. 2579.

? *β*. Foliis angustioribus, exquisite cuspidatis.—*Laurus Tazia* Hamilt. in Act. Soc. Linn. Lond. XIII. 2. p. 557. Spr. Syst. Veg. II. p. 266. n. 21. *Laurus albiflora* Wall. Cat. n. 2569 F.

Crescit in Sillet (F. D.). Var. *β* prope Nathpur et in montibus Napaliæ inferioribus ad Cosam fluvium (Hamilt.).—Frutex? Cortex fuscus, odoris aromatici et saporis debilis, *Cinnamomi Kiamis* similis.

Adnot. 1. A *Cinnam. Kiamis*, cui soli propinquum, quibus differat, sub illo invenies.

Adnot. 2. Var. *β*, quæ probabiliter hujus est loci, sine fructificatione a cl. Hamiltonio relata est atque descripta.

13. *Cinnamomum Culitlawan;* ramis teretibus glabris, foliis ovato-oblongis attenuato-acuminatis glabris subtus glaucis triplinerviis, costâ infra apicem nervulosâ, paniculis axillaribus paucifloris pubescenti-canis, perianthii campanulati laciniis ovalibus medio deciduis. —*Laurus Culilawan* Roxb. Hort. Beng. p. 30. N. ab E. de Cinn. Disp. p. 61 (ob synon., quæ ad hanc speciem omnia). Lin. Sp. Pl. ed. Willd. II. p. 478. Lin. Mant. p. 237. Mat. Med. p. 208. Dierb. Med. Ph. Bot. p. 154. Wall. Cat. n. 2577. Hamilt. in Act. Soc. Lin. Lond. XIII. 2. p. 554. Spr. Syst. Veg. II. p. 265. n. 2. *Laurus Caryophyllus* Lour. Fl. Cochinch. ed. Willd. I. p. 307. n. 3. *Cortex caryophylloides* Rumph. Herb. Amb. II. p. 65. t. 14. Valent. Ind. litt. c. 24. p. 450. Ephem. Acad. Nat. Cur. Dec. II. Ann. I. p. 55. *Cinnamomum Culilawan* Reinw. in litt. cf. N. ab E. Disp. de Cinnam. p. 62, (excl.

synon. Syndoc Rumph.) Crawfurd Hist. of the Ind. Archip. I. p. 512. Fr. N. ab E. Handb. d. Med. Ph. Bot. II. p. 429?

Crescit in Amboinæ insulæ districtu Leytimora circa pagos Saya, Rutton et Ema; in parte australi magnæ Ceramæ, in sinu Elipaputi usque ad Keffang, (quarum tamen cortex non tam præstans); in insula quoque Molucca, Batsjan dicta, ut et in Papuanis insulis, (quarum cortex Amboinensi prævalet fervore); magnâ etiam copiâ inveniuntur arbores in insulis Key at Aru; in ora orientali Celebis in tractu Caudipan; item in Sumatra circa Palimbang, et in Borneo circa Succadana. Ex Java itidem Culitlawan advehitur, et puto, corticem esse Syndoc; in Solora inventus quoque hic cortex, sed sapore itidem differens ab Amboinensi, ut et in Mindanaou (Rumphius); in Cochinchina (Loureiro); in Java insula? (Reinwardt). Vidi exemplum cultum ex Horto Bengalensi, in quem a Christophoro Smith a. 1800 e Moluccis invectum est (Roxb. l. c.).—Floret (in Horto Calcuttano, ut in Amboina,) Martio et Aprili mensibus; fructus decidunt Augusto (Roxb., Rumph.).—Arbor permagna.

Nomen Malaice *Culilawan*, quasi diceres Culit-lawan, per abbreviationem Culit-Buguliwan, h. e. cortex caryophylleus, ob odorem, quem fert. Amboinice dicitur *Salackal*, et *Salackar*, Javani quidam hanc quoque vocant *Sindoc*. Ceterum *Tedjo* vocatur a Ceram-Lauwerensibus et *Eyck* in Aru Haumo (Rumph.). *Poheree-lawan* Malaicâ linguâ vocari (Roxburgh l. c.).

Adnot. Cinnamomum Culitlawan *javanicum* cum foliorum figurâ recedat, cum suis synonymis ut dubium subjunxi, eoque magis, cum Rumphio differre Culitlawan Javanensium ab Amboinensi persuasum fuisse videatur, et Cinnamomum Culitlawan Blum. Bydr. p. 571, ut e specimine (sterili eo quidem), colligo, aliena sane a nostra sit species foliis oblongo-lanceolatis, basi eximie cuneatis, alte triplinerviis diversa, magisque ad *Cinnamomum eucalyptoides*, quod dixi, accedens. In tanta autem, quæ inter Laurinas versatur foliorum inconstantia, odorum et saporum, a solo situque certò certius pendentium, *leviores discrepantiæ* ad dubia illa confirmanda solæ vix sufficiunt, nisi graviora argumenta, ex aliis forte deducenda, subsidia illis præbeant.

Cinnamomum Sintoc Blum. Bydr. p. 571, quod *Sindoc* Rumphii, solis jam paniculis laxis fusco-tomentosis satis distinguitur.

14. *Cinnamomum Heyneanum;* ramulis teretibus petiolisque pubescentibus, foliis lanceolatis acuminatis glabris subtus glaucis triplinerviis nervis lateralibus apicem versus evanescentibus, pedunculis axillaribus subterminalibusque trifidis, perianthii laciniis juxta basin suturatis persistentibus.—*Laurus Heyneana* Wall. Cat. n. 2576.

Habitat . . . . Vidi exemplum Herbarii Heyneani, cum calycibus fructus fructuque maturo.—*Cinnamomo vimineo* simile.

Adnot. Quoad folia species hæc cum Cinnamomo genere eximie congruit, et cum sutura quoque ad basin laciniarum perianthii accedat, dubium non videtur, quin revera sit Cinnamomi species.

Species dubiæ.

?15. ? *Cinnamomum vimineum;* ramulis tetragonis petiolisque pubescentibus, foliis lanceolato-oblongis apice subattenuatis obtusis basi acutis glabris subtus glaucis valide trinerviis nervis lateralibus apicem versus evanescentibus, pedunculis infraterminalibus (axillaribusque?) trifloris (?).—*Laurus viminea* Wall. Cat. n. 2578. Lecta in Penang a G. Porter, absque floribus, sed pedunculis floribus exutis. —Frutex?

?16. ? *Cinnamomum caudatum;* floribus fasciculatis, fasciculis axillaribus pedunculatis, foliis ovatis caudato-cuspidatis trinerviis.—*Laurus caudata* Wall. Cat. n. 2603.

Habitat in Napalia, ubi a Wallichio a, 1822 inventum est.—Arbor?

Adnot. 1. Species primo intuitu e foliis cuspidatis floribusque in pedunculo communi fasciculatis distinguenda.

Adnot. 2. Singularis est in hac specie gemmarum ex ramorum axillis procreatio. Scilicet e folii axilla ramus oritur, simul cum folio nascens citissimoque progressu assurgens, simulque brevi spatio supra angulum, quem ille cum ramo primario describit, gemma prodit parva, quiescens, tomento induta, quæ eminentiam rami, folium cum suo ramulo ferentem superne claudit.

Adnot. 3. Cum fructus non innotuerit, non liquet, an CINNAMOMI sit generis, an potius CAMPHORÆ.

Species aliena.

Laurus ?? *smilacifolia* Wall. Cat. n. 2572 in Penang a G. Porter lecta, non hujus est familiæ, sed propter stipulas caducas et reliquum habitum probabiliter Buttneriaceis, (Sterculiæ forsan generi) vel Tiliaceis adscribenda.

Species suspecta.

Laurus ?? *lucida* Wall. Cat. n. 2590. Quercini potius esse videtur generis. Conf. ? *Alseodaphne lucida*, in antecedentibus descripta.

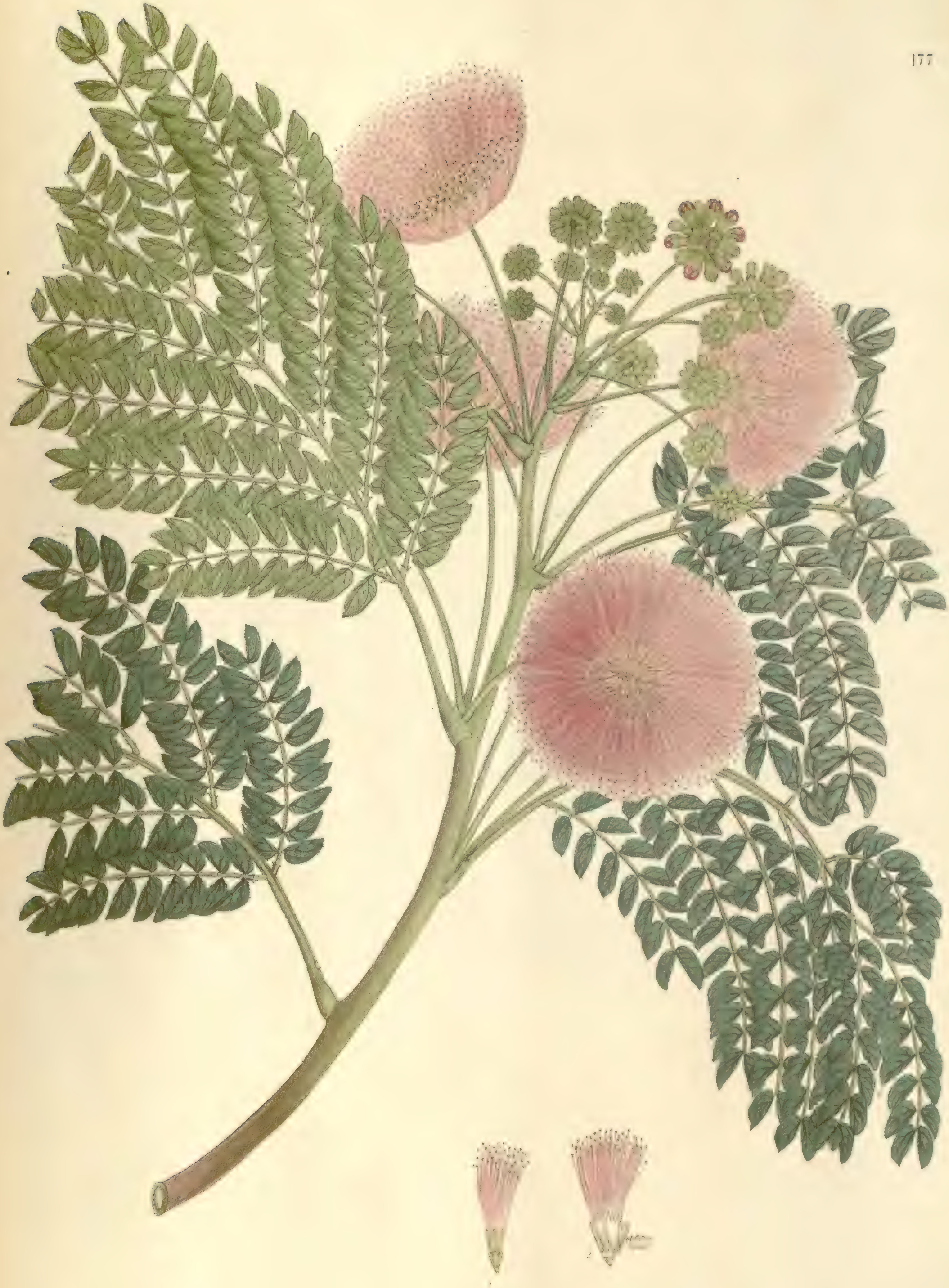
ACACIA MOLLIS. Tab. 177.

ARBOREA, erecta, inermis; foliis bipinnatis pinnisque multijugis, mollissimè villosis; pinnulis semiovatis, acutis; glandulâ concaviusculâ supra basin petioli, duabusque inter ultimas pinnas; capitulis fasciculatis, longè pedunculatis, corymbosis; filamentis longissimis.

Nomen monticolarum, *Lakkey*.

Colitur in hortis convallis magnæ Napaliæ, florens Aprili et Maio.

ARBOR procera et speciosa, umbrosa. RAMI cylindrici, inermes, calloso-punctulati, fusci; superiores subflexuosi, tenellique densè villosi. FOLIA alterna, patentia, approximata, ferè pedalia, bipinnata, 4—8-juga, utrinque obsita villis adpressiusculis, copiosis, pallidè ferrugineis, mollissimis et sericeis. PETIOLUS 2-pollicaris, gracilis, basi tumidus, suprà plano-sulcatus, abiens in *rachin* gracilem, sulcatam; *glandula* parva, sessilis, orbiculata, concava supra basin petioli, aliæque duæ ad apicem rachis, inter pinnarum juga duo extima. PINNÆ oblongæ, 5-pollicares, exactè oppositæ, ferè sessiles. PINNULÆ 14—18-jugæ, dimidiato-ovatæ, oblongæ, cuspidato-acutæ, basi semicordatâ hinc gibbosæ, indè acutæ, utrinque decrescentes, mediæ lineas 8 longæ, mollissimè villosæ, subtùs parùm reticulatæ, sessiles in *rachi partiali* filiformi, recta. STIPULÆ oppositæ, parvæ, lineari-lanceolatæ, pubescentes, valdè deciduæ. CAPITULA magna, rosea, nunc alba, longè pedunculata, fasciculata, axillaria foliorum supremorum, terminaliaque, *corymbum* formantes terminalem amplam. PEDUNCULI graciles, teretes, villosi, 2—4-pollicares. FLORES subsessiles, majusculi. CALYX oblongus, 5-dentatus, pubescens, nunc lateralitèr fissus. COROLLA flavescens, subinfundibuliformis, calyce triplò longior, pubescens; *limbus* divisus in *lacinias* 5 patulas, lanceolatas, acutas. STAMINA plurima, patentia, recta, rubicunda, lævia, sesquipollicaria; *filamenta* capillacea, basi in tubum corollæ longitudinem æquantem connata; *antheræ* parvæ, glabræ. OVARIUM lineare, glabrum; *stylus* longitudine staminum, rufus; *stigma* minutum.



Acacia mollis.

M. Gauci lith

Gerachand del.

Printed by Engelmann, Graf, Coindet & Co.

This is a very large and shady tree with fine rose-coloured flowers, changing sometimes into white with the ends of the filaments tinged red. It is commonly cultivated in the gardens at Katmandu, but there is no doubt that it is also a native of the neighbouring mountains, although I have in vain searched after it.

Plate CLXXVII. Fig. 1. A detached flower. 2. The same, dissected.

SAURAUJA NAPALENSIS. Tab. 178.

Saurauja napalensis Decand. Prodr. 1. p. 526.—Suprà, p. 40.

Crescit in omnibus partibus Napaliæ tàm inferioris quàm superioris, florens sub pluviis, fructifera Novembre.

Arbor mediocris altitudinis. Rami cylindrici, fusci, punctati; exteriores novellique densè vestiti tomento copiosissimo, pallidè ferrugineo, furfuraceo, solubili, intermixto squamis fuscis, subulatis, acuminatis. Folia sparsa, patentia, approximata, oblonga, nunc elliptica, acuminata, cuspidato-serrata, basi integra et rotundata, dodrantalia, pedalia vel ultrà; suprà glabra, vel pilis raris adpressis conspersa, obliquè sulcata, subtùs tenuitèr ferrugineo-tomentosa, nervis plurimis, conspicuis, obliquis, parallelis, approximatis, ad marginem arcuatis, costâ carinatâ, squamulosâ, venis reticulatis. Petiolus pollicaris, tomentosus. Corymbi axillares, solitarii, longè pedunculati, folio breviores, ovati, squamuloso-tomentosi. Pedunculus *communis* cylindricus, 5-pollicaris; *partiales* alterni, parcè ramosi. Flores majusculi, rosei; cætera ut in *S. fasciculata* (vide suprà, p. 40.).

Plate CLXXVIII. Fig. 1. 2. & 3. Flower. 4. 5. Corolla, opened. 6. Pistil. 7. Ovary, opened.

BLACKWELLIA NAPALENSIS. Tab. 179.

Blackwellia napalensis Decand. Prodr. vol. ii. p. 54.

Habitat ad Balajee in convalle Napaliæ magna, florens Augusto; fors etiam in montibus Sillet vicinis.

Arbor magna. Ramuli grisei, punçtis creberrimis, callosis, pallidis notati, cum foliis glaberrimi. Folia alterna, approximata, patentia, ovata, acuminata, grossè et obtusè serrata, 5-pollicaria, coriacea, suprà nitida, subtùs nervoso-venosa, reticulata, *petiolis* insidentia unguicularibus, suprà sulcatis. Stipulæ axillares, oppositæ, minutæ, lineares, caducissimæ. Inflorescentia axillaris, folio paullò brevior, ovata, attenuato-acuminata, brevè pedunculata, ramosa, constans *racemis* brevibus, paniculatis. Pedunculi teretes, pubescentes. Flores parvi, alterni, brevissimè pedicellati, albidi, fœtidi, cano-villosi. Calyx patens, divisus in lobos 12 vel 14 duplici ordine dispositos, oblongos, obtusos, ciliatos, interioris seriei exterioribus duplò latiores, subspathulatos. Stamina lobis calycis interioribus numero æqualia, iisdemque opposita, patentia, glabra; *filamenta* capillacea, glandulis minutis, ovatis alternantia. Antheræ geminato-capitatæ, retusæ, biloculares; *loculi* globosi. Ovarium semiadnatum, villosum, infernè oblongum, supernè ovatum, 1-loculare; *ovula* 8—16 pendula, placentis quatuor parietalibus, linearibus regularitèr inserta. Styli 4, teretes, breves, villosuli. Stigmata obtusa.

I have found this tree nowhere except at a place called Balajee, in the great valley of Nipal, where it attains a very large size. Together with *Blackwellia spiralis*, *B. fœtida* (*Ludia fœtida* Roxb.) and *B. propinqua* (a species found in Penang), our tree belongs to the same genus with Loureiro's *Astranthus*, according to the observations of the illustrious author of the Botanical Appendix to Tuckey's Expedition to Congo. The three-celled anther of which Loureiro speaks, is nothing else than an ordinary bilocular anther, of which the globular cells are rather more distant towards the top than at the base, in consequence of a slight dilatation of the apex of the filament, giving the interstice somewhat the appearance of a third cell.

Plate CLXXIX. Fig. 1. 2. Flower. 3. Flower, opened. 4. Ovary, opened.

MUSSAENDA MACROPHYLLA. Tab. 180.

Mussaenda macrophylla, Wall. in Roxb. Flor. Ind. vol. 2. p. 228.

Habitat in montibus Nagarjun et Chandaghiri Napaliæ, florens sub pluviis, fructifera Novembre, Decembre.

Plate CLXXX. Fig. 1. Flower. 2. Calyx. 3. Corolla, opened. 4. 5. Ovary, opened.

CERASUS ACUMINATA. Tab. 181.

Foliis lanceolatis, acuminatissimis, remotè serratis, floribusque glaberrimis, subtùs nunc sparsè glandulosis, basi petiolisque nudis; racemis axillaribus, solitariis vel fasciculatis, foliis paulò brevioribus.

Nomen Parbutteum, *Aroo.*

Habitat in montibus Napaliæ, florens mensibus anni primis.

Arbor 20—30-pedalis, ramosissima, omnibus partibus glaberrima. **Ramuli** graciles, fusci. **Folia** alterna, approximata, patentia, perennantia, lanceolata, acuminatissima, remotè et acutè serrulata, basi rotundato-acutiuscula, lævia, lucida, 3—5-pollicaria, suprà atro-viridia, subtùs reticulata, costâ elevatâ, gracili, sæpiùsque glandulis aliquot parvis, excavatis inter nervos sparsis; *petiolo* suffulta brevi, profundè sulcato, eglanduloso. **Stipulæ** lineares, fugacissimæ. **Racemi** axillares, solitarii, vel pauci fasciculati, subnutantes, cylindrici, attenuati, longitudine ferè foliorum, glaberrimi, brevè pedunculati. **Flores** mediocres, ex flavido albi, remotiusculi, sparsi, patentes. **Pedicelli** semiunguiculares, teretes, basi *bracteolâ* minutâ, ovatâ, ciliatâ, carnosâ, caducâ. **Calyx** turbinatus, flavescens, limbo 5-dentato, intùs villosulo. **Petala** ovata, acuta, subcrispatula, patentia, calyce ferè duplò longiora. **Stamina** 15 vel 20, glabra, petalorum longitudine. **Ovarium** ovatum, sericeo-villosum, 1-loculare; *ovula* 2 e fornice loculi pendula, alterum sphacelato-abortivum. **Stylus** filiformis. **Stigma** subcapitatum. **Drupa** ovata, lævis, putamine glabro, tenui; maturam haud vidi.

Plate CLXXXI. Fig. 1. 2. Flower. 3. The same, dissected.

MAGNOLIA INSIGNIS. Tab. 182.

Magnolia insignis, Wall. Tentam. Floræ Napalensis Illustrat. v. 1. p. 3. t. 1.

Nomen Nevarense, *Seete.*

Habitat in convalli Napaliæ ad Sankoo adque cacumen montis Sheopur, altitudine pedum 6,000 ad 10,000. Floret mensibus Aprilis et Maii; fructus maturos profert Octobre.

Although a figure of this *Magnolia* has been already published in my *Tentamen Floræ Napalensis,* I venture to add a plate of it in the present work, as the means which I had in India were very inadequate for doing justice to this truly superb tree. It grows in great abundance at a place called Sankoo, in the great valley of Nipal, and sparingly on Mount Sheopur, towards its summit. I have not met with it anywhere else; nor have I ever heard of its growing in any of the other mountainous parts of Hindustan. It is in full blossom in April and May, at which period it is impossible to behold a more magnificent object. The flowers are produced in vast numbers; they are very beautiful, large, and fragrant, of a yellowish white colour, with the apex of the petals pink, and the reflexed leaves of the calyx brownish red, and elegantly reticulated with pale green nerves and veins. The capsules are purple, and disposed in large, erect, oblong cones, from which the scarlet seeds hang down in all directions, being suspended on delicate white threads. The leaves are dark green and leathery, and form a very umbrageous crown; in winter, from November until February, they fall off, leaving the branches quite naked.

The tree attains a vast size, its trunk frequently measuring four or five feet in diameter. If it could be brought from the elevated region in which it grows on Sheopur, it would no doubt admit of being acclimated in England; an event which its beauty renders extremely desirable, and which I hope to live to accomplish. The wood is pale yellow, and close-grained.

For a full description of the tree I must refer to the work quoted before.

Plate CLXXXII. Fig. 1. Stamens and pistils. 2. Pistils, the stamens being removed. 3. Two detached stamens. 4. 5. Detached pistils. 6. The same, opened. 7. Cone of ripe capsules. 8. A detached capsule, which has burst open. 9. Seed. 10. 11. The same, dissected. 12. The same, after the pulpy part has been removed. 13. 14. Stipules.

BIGNONIA AMŒNA. Tab. 183.

Arborea, foliis tripinnatis, trijugis, foliolis lanceolatis, acuminatis, integerrimis, lævibus; paniculâ terminali, trichotomâ; calyce obtusè trilobo, corollæ limbo puberulo; capsulâ cylindricâ, gracili, spirali.

Saurauja napalensis

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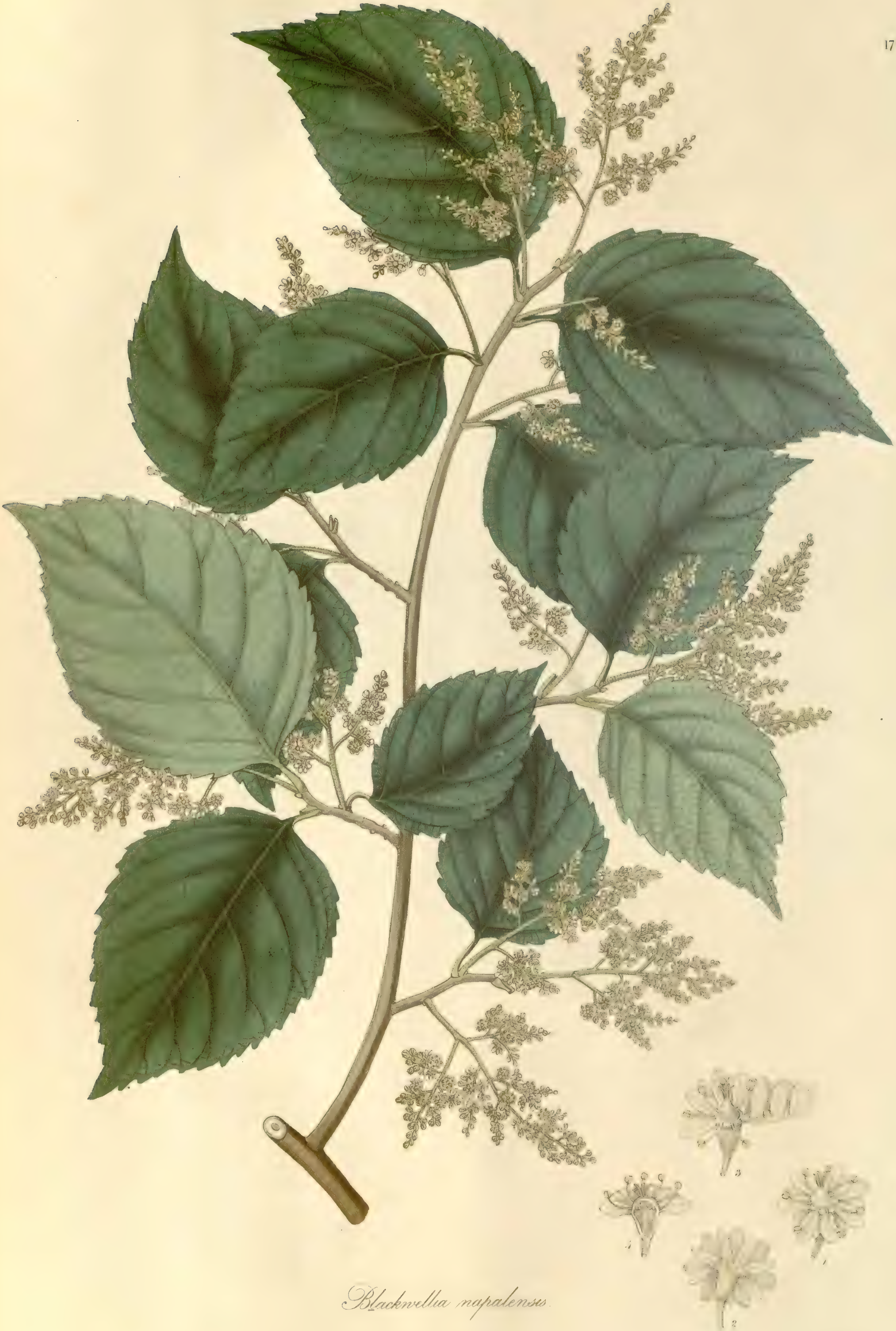
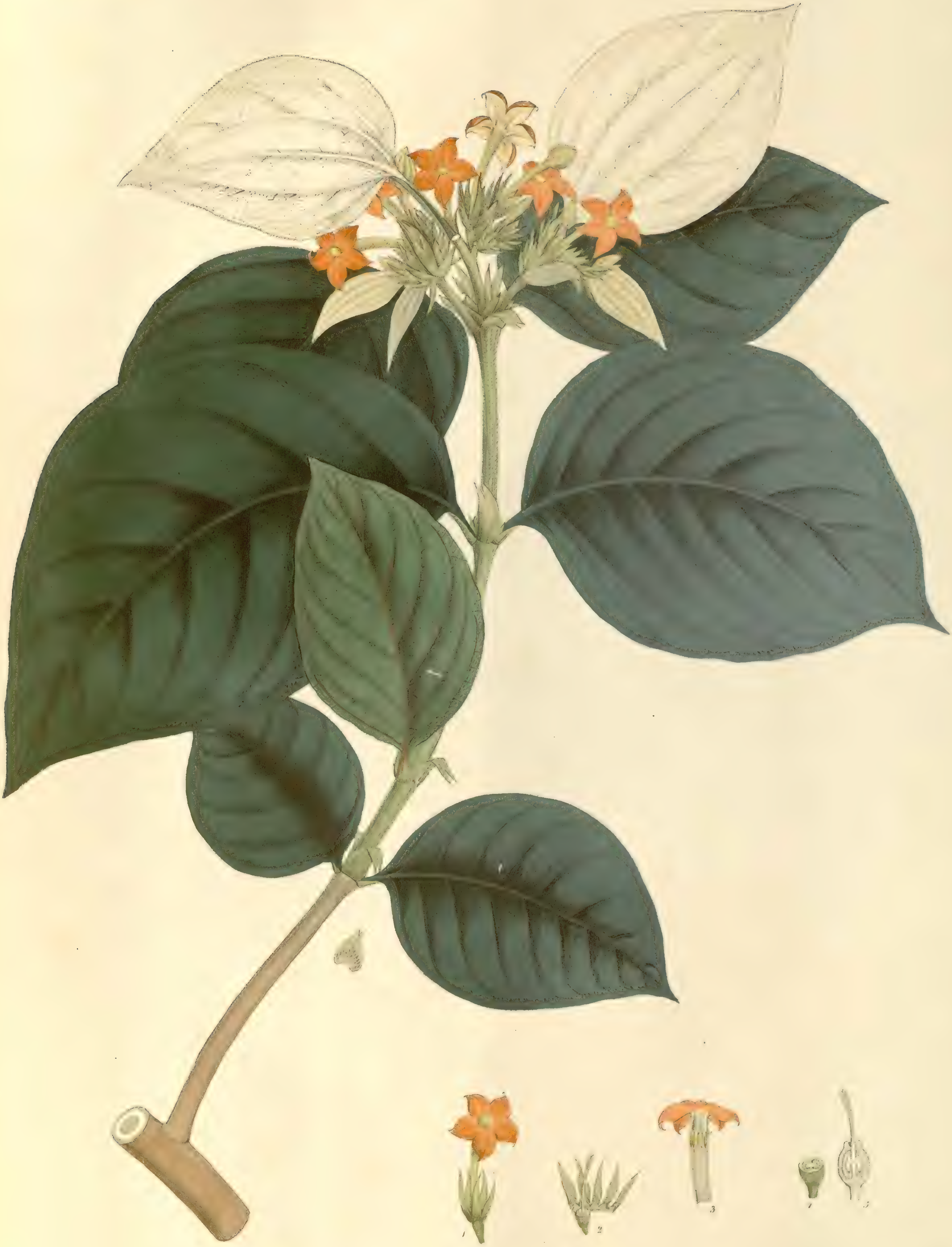
Printed by Engelmann, Graf, Coindet & Co.
M. Gauci lith



Blackwellia napalensis

Printed by Engelmann Graf, Coindet & Co



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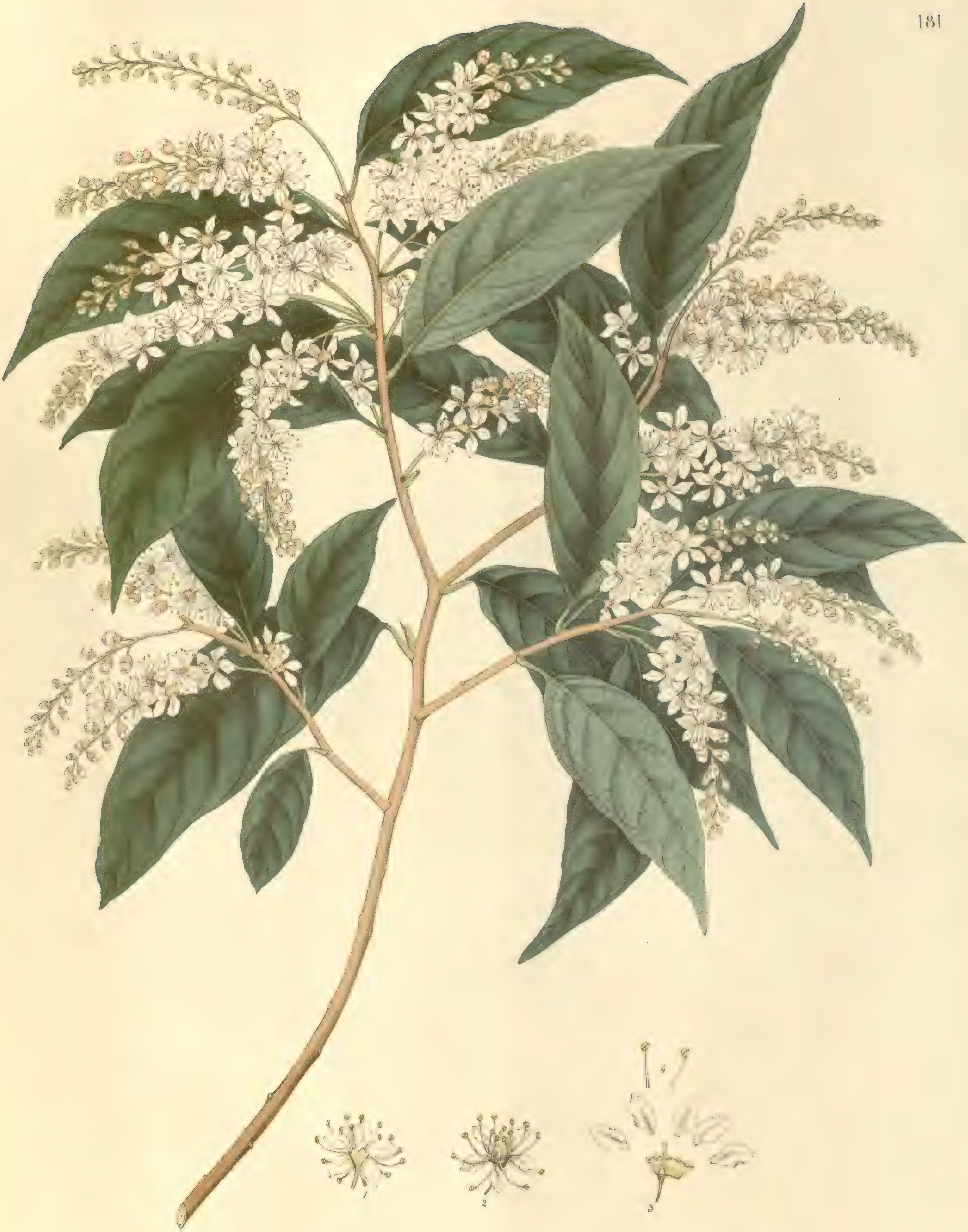
Muſsaenda macrophylla



Cerasus acuminata.

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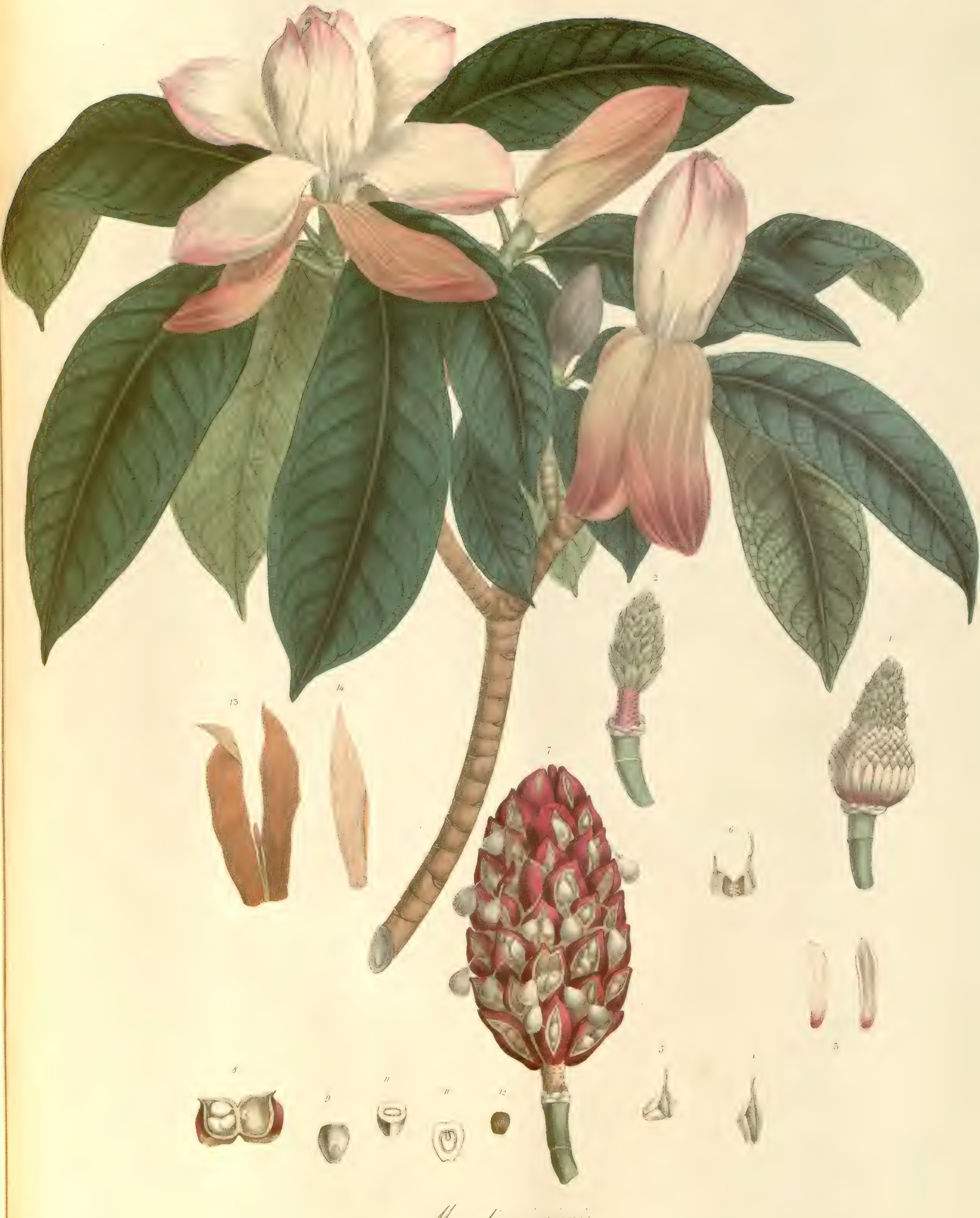
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Magnolia insignis.

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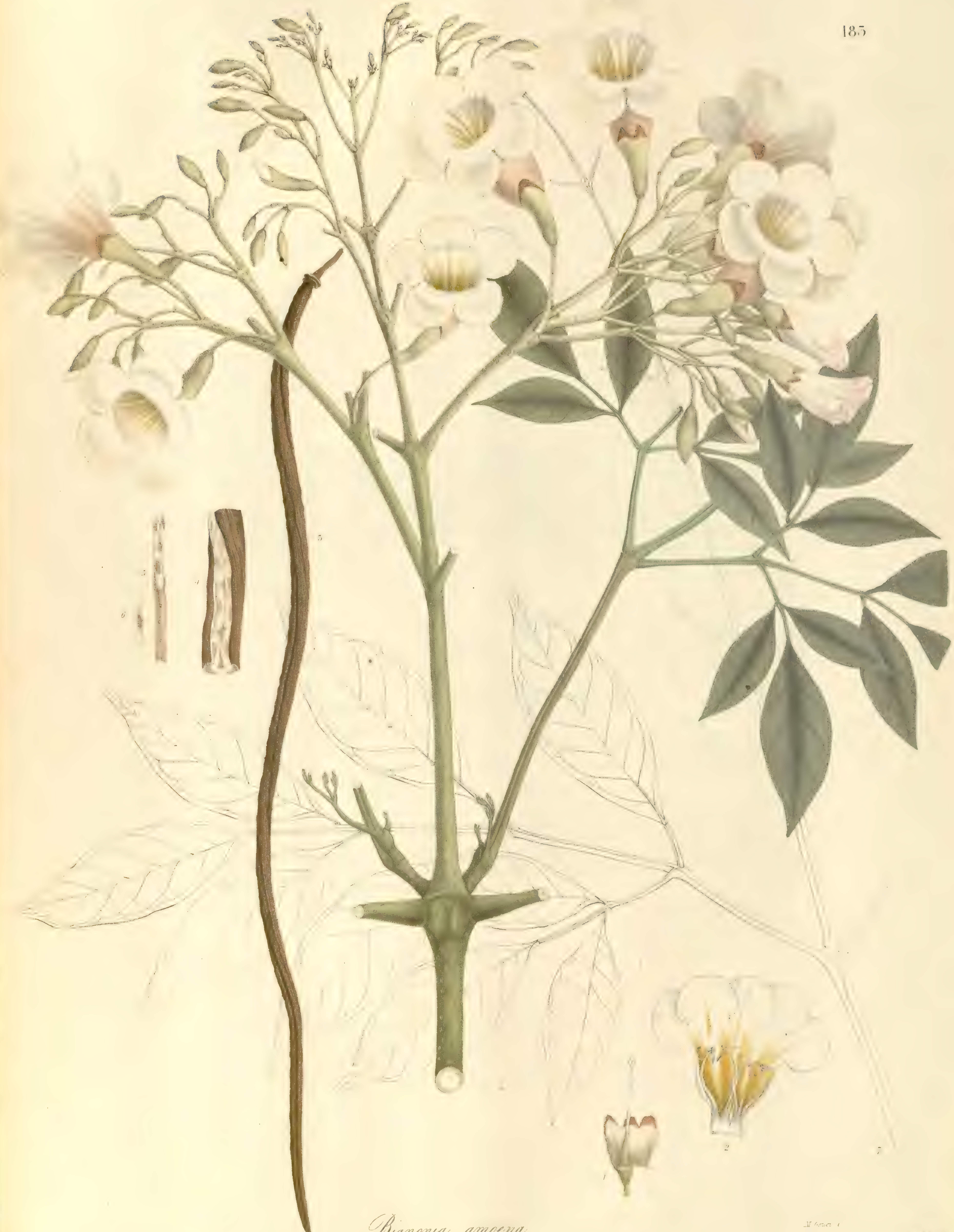
Vishnupersaud del.



Bignonia amoena.

Vishnupersaud del^t

Printed by Engelmann Graf, Coindet & Co.

M Gauci l

Habitat in Mauritio; inde in Hortum Calcuttensem a Dom. Carolo Telfair introducta anno 1818. Floret a mense Novembris usque ad Maium; fructus fert fine temporis calidi.

Arbuscula ramosa. **Rami** cylindrici, punctis callosis plurimis asperi; *juniores* alternatim complanati, petiolique cano-furfuracei. **Folia** patentissima, opposita, magna, sesquipedalia, lævissima, bipinnato-decomposita, basi nempè tripinnata, circumscriptione triangulari-ovata, petiolata, 3—4-juga; *foliola* 3-juga, petiolata, inferiora impari-pinnata, 2-juga. **Foliola** lanceolata, acuminata; integerrima, basi attenuato-acuta, margine levitèr recurvata subundulataque, coriacea, lucida, 3—5-pollicaria, suprà atro-viridia, subtùs costâ albicante, gracili, nervis suboppositis, capillaceis, arcuato-anastomosantibus. **Petiolus** communis palmaris et ultrà, teres, basi valdè incrassatus; *rachis* gracilis, suprà plana, ad insertionem pinnarum articulata; *petioli* foliolorum longitudine varii, unguiculares vel semiunguiculares, apice articulati. **Stipulæ** nullæ. **Panicula** terminalis, lato-pyramidata, brachiata, trichotoma, laxiuscula, glaberrima, nuda. **Pedunculi** oppositi, punctati. **Flores** magni, bipollicares, fragrantissimi, dilutissimè flavicantes, intùs aurantiaci, longiusculè pedunculati, subcorymbosi, nutantes. **Calyx** coriaceus, subcylindricus, ferè pollicaris, pedicello brevior, versùs os 2- vel 3-lobum parùm dilatatus; *lobi* inæquales, breves, rotundato-obtusi, margine membranacei et emarcescentes, tubo corollæ adpressi. **Corollæ** *tubus* e basi angusta ampliatus et campanulatus, calyce plus duplò longior; *limbus* patens, inæqualitèr 5-lobus; *lobi* subrotundi, pubescentes, crenulato-ciliati, crispatuli, inferiores 2 paullò minores; *faux* ampla, striis aurantiacis ornata. **Stamina** versùs latus tubi inferius depressa, vix faucem attingentia; *filamenta* curva, teretia, ad insertionem supra basin contractam tubi villis hyalinis, capitato-glandulosis vestita, cæterùm glabra; *stamen quintum, sterile*, subulatum inter inferiora. **Antheræ** *locula* gracillima, longiuscula, admodum divaricata, ad juncturam cuspidulâ communi subulatâ aucta. **Ovarium** oblongum, læve, *disco* amplo, carnoso basi cinctum; *stylus* teres, longitudine ferè staminum; *stigma* ovatum, bilabiatum. **Capsula** gracilis, cylindrica, pendula, parùm spiralis, pedalis vel sesquipedalis, pennam anserinam crassa, ferruginea, lævis, basi vestigio annulari insertionis calycis dilapsi notata, 2-locularis, 2-valvis. **Semina** plana, utrinque terminata alâ tenuissimâ, oblongâ, albâ, *placentæ* liberæ, fragili, cylindricæ adplicata, cum alis pollicem dimidium emetientia.

For the introduction of this most beautiful species of *Bignonia*, the Honourable Company's Botanic Garden is indebted to Charles Telfair, Esq. of the Mauritius, one of the most amiable and excellent of men, in whom during twenty years I have had the happiness of possessing an intimate and esteemed friend, whose name will always rank very high among the most liberal and most enlightened benefactors of Indian botany and horticulture. The tree is a native of the Mauritius, originally perhaps of Madagascar: in Bengal, where it thrives luxuriantly, it forms a small but truly ornamental tree, on account of its flowers and foliage, the former of which are exquisitely fragrant. It has also been introduced into the hothouses in England, but as yet, I believe, it has not flowered here.

Plate CLXXXIII. Fig. 1. 2. Calyx and corolla, opened. 3. Ripe capsule. 4. A section of the same. 5. Placenta, with seeds attached. 6. A detached seed. 7. Outline of part of a leaf.

POLYGALA PERSICARIÆFOLIA. Tab. 184.

Polygala persicariæfolia Decand. Prodr. v. 1. p. 326.

Crescit in sylvis montanis convallis Napaliæ, florens fructiferaque sub pluviis. In Kamaon invenit Robertus Blinkworth. In Herbario Heyneano asservantur specimina nomine *Polygalæ* inscripta, sed absque patriæ indicatione.

Planta herbacea, gracillima, adscendens, ferè simplex, palmaris, pedalis vel sesquipedalis. **Radix** parva, fibrosa. **Caulis** tenerrimus, teres, pilis brevibus pubescens, infernè nudus, simplex vel aliquando basi mediove in *ramos* aliquot integros divisus, apice sæpiùs bifidus. **Folia** sparsa, patentia, lineari-lanceolata, cuspidato-acuminata, ferè sessilia, membranacea, integerrima, obsoletè repandula, 2—3-pollicaria, ciliata, suprà glabra, subtùs puberula. **Racemi** oblongi, 3-pollicares, multiflori, pedunculati, terminales, vel e divisura caulis terminali, erecti, solitarii. **Flores** parvi, purpurei, pedicellati; *pedicelli* basi tribracteolati, *rachis*que pubescentes. **Calycis** *foliola* exteriora lanceolata; *alæ* magnæ, foliaceæ, pallidæ, flavicantes, rotundato-obovatæ, elegantèr reticulato-venosæ. **Corolla** alis parùm brevior, apice cristata. **Capsula** obcordata, ciliata. **Semina** oblonga, sericeo-pilosa.

Plate CLXXXIV. Fig. 1. 2. Flower. 2. 3. Corolla.

POLYGALA CROTALARIOIDES. Tab. 185. (fig. superior.)

Polygala crotalarioides, Hamilt. ex Decand. Prodr. v. 1. p. 327.

Polygala capitata, Herb. Hamilt.

Crescit in sylvis montium Napaliæ, florens sub pluviis. In Kamaon, Blinkworth. In Sukanaghur, Hamilton.

Plantula decumbens, vel suberecta, pilis canis pubescens, nunc omnibus partibus densè pilosa. Radix perennis? subfusiformis. Caules aliquot simplices, teretes, 6-pollicares, in varietate nana (e Kamaon missa) bipollicares. Folia approximata, sparsa, patentia, cuneato-obovata, obtusa, vel cuspidulata, integerrima, deorsum attenuata, basi acuta, subsessilia, utrinque pilis paucis, depressis conspersa, ciliata, 2-pollicaria, subtùs glaucescentia. Petiolus brevissimus, vix ultra semilineam emetiens, teres, crassiusculus. Flores parvi, purpurei, densè dispositi in *racemos* laterales vel subaxillares, ovatos, nunc umbelliformes, folio dimidio breviores, ferè pollicares, sessiles. Pedicelli pilosi, brevissimi, suffulti *bracteolis* 3 lanceolatis, pilosis, persistentibus. Calycis *foliola* 3 exteriora lanceolata, ciliata; *alæ* ovatæ, ciliatæ, basi acutæ. Corolla densè penicillato-cristata. Capsula reniformi-obcordata, copiosè ciliata, lateribus vesiculosis. Semina cano-villosa.

Plate CLXXXV. (the upper representation). Fig. 1. Flower. 2. The same, enlarged. 3. The same, opened. 4. Stamens. 5. Carina, with its crest. 6. Capsule.

ARGOSTEMMA VERTICILLATUM. Tab. 185. (fig. inferior.)

Argostemma verticillatum Wall. in Roxb. Flor. Ind. v. 2. p. 325.
Habitat ad Mareko montis Sheopur Napaliæ, florens mensibus Julii et Augusti.

A detailed description of this neat little plant has been published by me in 1824, in Roxburgh's work just quoted.

Plate CLXXXV. (the lower representation). Fig. 1. 2. Flower, enlarged. 3. Calyx, opened. 4. Corolla, opened. 5. Stamens. 6. Ovary, opened.

STAUROGYNE.

Calyx 5-partitus, 3-bracteatus, lobis aristato-acuminatis, inæqualibus. Corolla tubulosa, limbo 5-lobo. Stamina 4, inclusa, didynama (cum rudimento quinti?), antherarum loculis discretis, reflexo-parallelis. Ovarium disco carnoso insidens, biloculare, polysporum; ovula axi adfixa. Stylus gracilis. Stigma infundibuliforme, trilobum; lobi subulato-acuminati, laterales breviores, divaricati. Fructus . . . .

Classis Linneana: *Didynamia Gymnospermia.*
Ordo naturalis: *Acanthaceæ?*
Habitus: Herba carnosa, erecta, parcè ramosa, foliis subtùs argenteis, floribus racemoso-capitatis, terminalibus.

STAUROGYNE ARGENTEA. Tab. 186.

Foliis oblongis, sepalis bracteisque scabris.
Crescit in Sillet, florens sub pluviis. Invenit F. De Silva.

Planta erecta, brevis. Radix ratione plantæ magna, perpendicularis, sublignosa, *fibras* emittens plures, horizontales, pubescentes. Caulis semipedalis, carnosus, cylindricus, pilosulus, ætate glaber, nunc aliquot ex eadem radice. Rami pauci, oppositi, teretes, breves, simplices. Folia opposita, patentissima, interstitiis ter pluriesve longiora, lanceolato-oblonga, acutiuscula, basi subacuta, integerrima, vel obsoletè crenulata, 3—4-pollicaria, subcarnosa, suprà glabra, punctis creberrimis minutis obsita, subtùs argenteo-alba, subnitida, secus vasa puberula, costâ elevatâ, nervis alternis, ad marginem obliquè excurrentibus, venis capillaceis, reticulatis. Petiolus carnosus, teres, suprà sulcatus, folio dimidiò triplòve brevior, basi lineolâ elevatâ ad oppositum migrans. Flores subsessiles, aliquot dispositi in *racemum* brevem, subcapitatum, terminalem, brevè pedunculatum, pubescentem. Calyx 5-phyllus; *foliola* erecta, inæqualia, lineari-lanceolata, trinervia, margine nervisque subpiloso-scabra, desinentia in aristam longam, capillaceam, scabram, in planta adulta ferè pollicarem, rufescentem. Bracteæ tres infra calycem, cujus laciniis simillimæ sed parùm minores. Corolla tubulosa, calyce vix longior, glabra, ferè pollicaris; *tubus* amplus, pallidè violaceus, basi flavidus leviterque contractus; *limbus* brevis, patens, 5-lobus, purpureus; *lobi* subrotundi, obtusi, inferiores 2 parùm minores et disco albidi; *faux* nuda, pervia. Stamina 4, supra basin tubi inserta, didynama; *filamenta* filiformia, puberula; *antheræ* albidæ, 2-loculares, parùm nutantes; *loculi* retroflexi, paralleli, basi tantùm connectivo brevi, clavato unitæ. *Rudimentum* staminis quinti inter inferiora filamenta? Ovarium *disco* carnoso, brevi insidens, glabrum, oblongum, 2-loculare; *ovula* plurima, cuneiformi-cylindrica, angulo recto e placenta axili parallelè divergentia. *Stylus* gracillimus, staminibus parùm longior, apice levitèr incrassatus. Stigma in fauce corollæ, magnum, infundibuliforme, 3-lobum; *lobi* subulati, valdè acuminati, laterales breviores, in formam crucis divergentes (unde nomen genericum). Fructus haud visus.

Polygala persicariæfolia.

Gorachand del.

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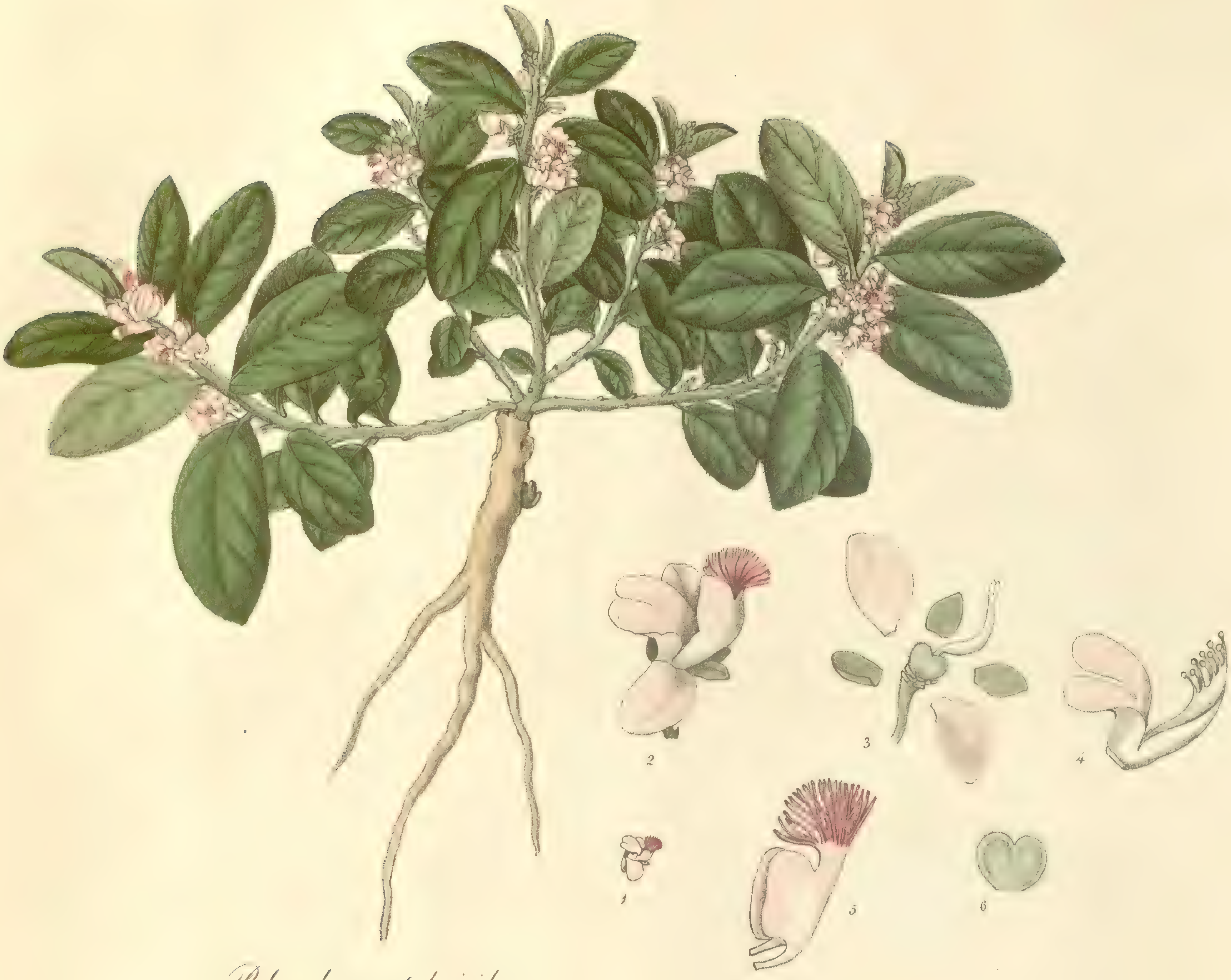
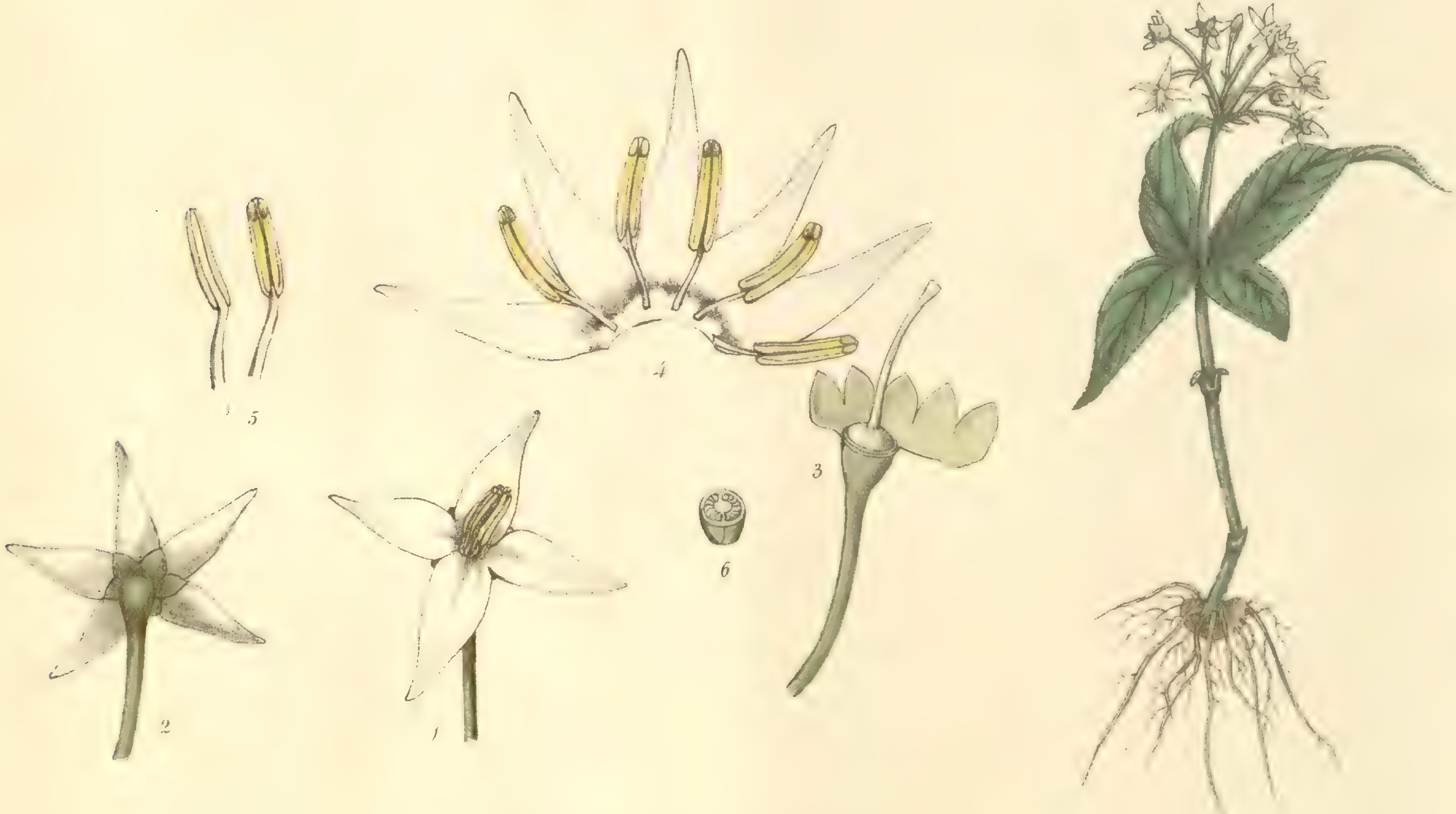


Polygala crotalarioides.



Argostemma verticillatum

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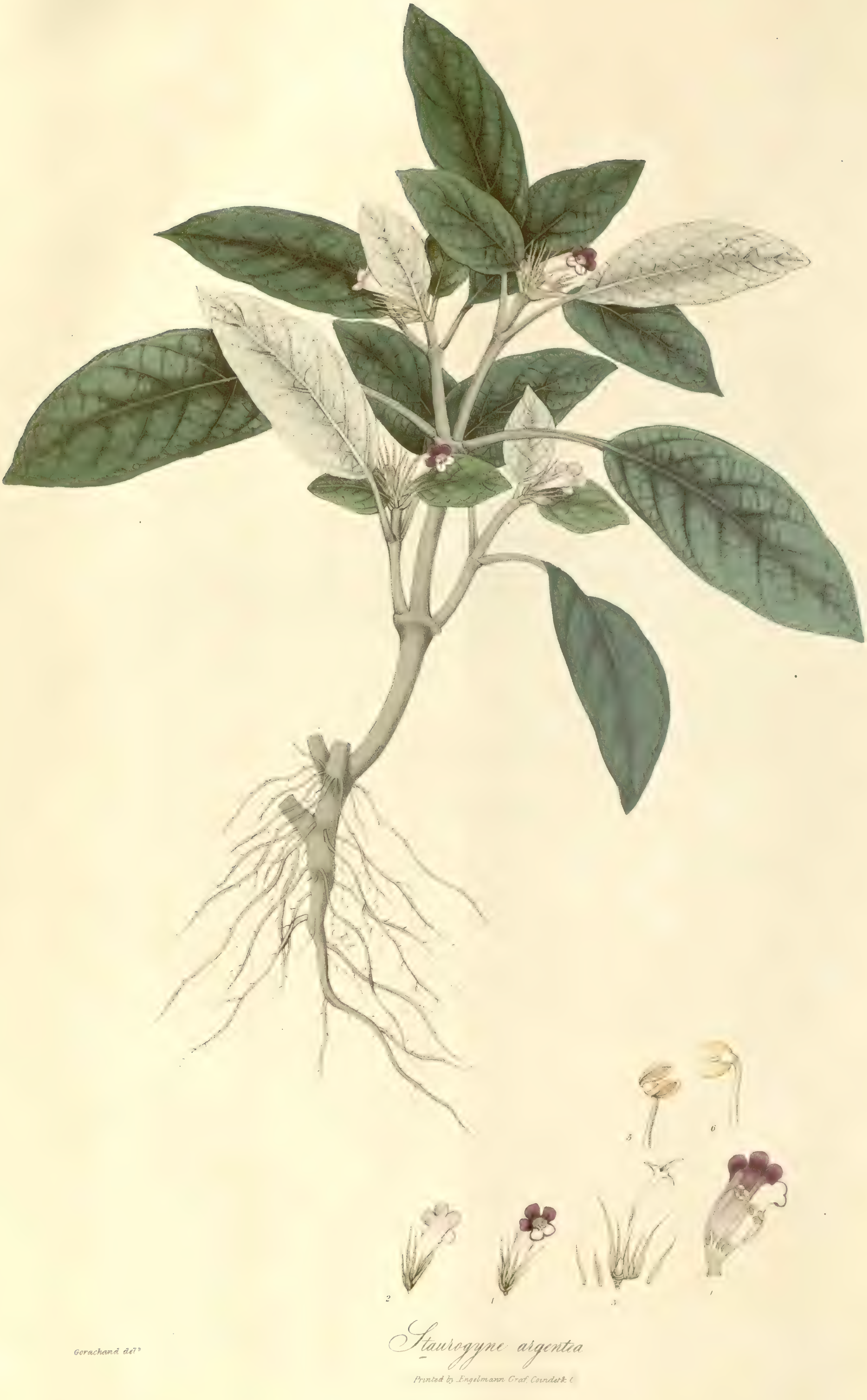

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Staurogyne argentea

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I possess another species, which was found at Tavoy by William Gomez in 1827. It may be distinguished in the following manner: *Staurogyne angustifolia*, foliis lineari-lanceolatis, sepalis bracteisque hispidulis.

Plate CLXXXVI. Fig. 1. 2. Flower. 3. Calyx, opened. 4. Corolla. 5. 6. Two detached stamens, enlarged.

CEROPEGIA PUBESCENS. Tab. 187.

VOLUBILIS, foliis ovatis, acuminatissimis, pilosulis; corollæ tubo longo, cylindrico, subrecto, limbo ovato, 5-carinato, basi hiante, caudâ cylindricâ terminato.

Crescit in monte Chandaghiry Napaliæ, florens mense Junii.

CAULIS herbaceus, gracillimus, tortuosus, longissimè volubilis, glaberrimus, ramosus; *rami* filiformes. FOLIA opposita, patentissima, remotiuscula, ovata, attenuato-acuminata, integerrima, repandula, basi rotundata, 3—6-pollicaria, membranacea, minutìm pellucido-punctulata, ciliata, pilis sparsis subadpressis utrinque obsita, præcipuè subtùs ubi pallida, nervis elevatis, obliquis, suboppositis, ad basin inæqualem subquinquenervia; *superiora* ovato-oblonga. PETIOLUS 2-pollicaris, teres, suprà parùm sulcatus ciliatusque, basi utrinque glandulâ sessili, globosâ, sphacelatâ munitus, cum opposito petiolo caulem ramumve lineâ elevatâ amplectens. FLORES magni, tubulosi, purpurei, limbo flavi, inodori, dispositi in fasciculum axillarem vel extra-axillarem, suffultum *pedunculo communi* tereti, puberulo, petiolum ferè æquante; *pedicelli* crassiusculi, inæquales, unguiculares, circitèr 6 vel 8 in singulo fasciculo, *bracteolis* ad basin subulatis, parvulis. CALYX parvus, 5-fidus, lævis; *laciniæ* lanceolatæ. COROLLA sesquipollicaris, extùs glabra; *tubus* cylindricus, levitèr incurvus, basi vix dilatatus, intùs villosulus; *limbus* ovatus, pentagonus, processu longo subcylindrico terminatus, dimidio tubo vix longior, æstivatione clausus, 5-carinatus, demùm mediò inter bases laciniarum patens; *laciniæ* valvæformes, ovatæ, attenuatæ in acumen longum, teres, intùs subangulare, angulo per paginam internam laciniæ lineolâ elevatâ decurrente. COLUMNA *staminum* brevis in fundo tubi corollæ. CORONA subduplex: *exterior* minuta, 5-dentata, squamæformis, interiore multùm brevior, basibus ejus opposita; *interior* purpurea, 5-loba, *lobi* subulati, basi intùs pro recipienda basi filamenti sulcati, apice levitèr recurvati. FILAMENTA brevissima. ANTHERÆ subglobulares, nudæ. MASSÆ POLLINIS erectæ, fuscæ, ope fili subtilis insertæ medio corpusculi oblongi, atri. OVARIA 2, subcylindrica, lævia. STIGMA carnosum, depresso-subquinquangulare, suprà membranulis 5 angustissimis subcarinatum.

Plate CLXXXVII. Fig. 1. Flower. 2. Corolla.

HYMENODICTYON FLACCIDUM. Tab. 188.

Hymenodictyon flaccidum, Wall. in Roxb. Flor. Ind. vol. ii. p. 152.

Habitat ad latus septentrionale montis Sheopur versus basin; etiam in convalli Napaliæ minore, Noakote dicta; florens, fructuque onustum præcedentis anni mense Junii.

Plate CLXXXVIII. Fig. 1. Flower. 2. Calyx; and 3. Corolla, opened. 4. 5. Ovary, dissected. 6. Raceme of ripe capsules. 7. A detached fascicle of capsules.

PYRUS FOLIOLOSA. Tab. 189.

ARBUSCULA, ramis subvolubilibus; foliis pinnatis, 8-jugis, foliolis oblongo-lanceolatis, versus apicem cuspidato-serrulatis, subtùs petiolisque villosis; pomis obovato-rotundatis.

Crescit versus apicem montis Sheopur, et ad Gossain Than. Floret mense Maii; fructus profert Augusto.

ARBUSCULA. RAMI elongati, subvolubiles, cortice induti cinereo, scabro, ad extremitates vestiti lanugine densâ, niveâ, demùm deciduâ. GEMMÆ ovatæ, obtusæ, nudæ. FOLIA approximata, alterna, patentia, 6-pollicaria, impari-pinnata, 7—8-juga; *foliola* exactè opposita, patentissima, subsessilia, pollicaria et ultrà, oblongo-lanceolata, cuspidato-acuta, extrorsùm acutè serrulata, dimidiâ inferiore parte integerrima, basi obtusa parùmque inæqualia, suprà lævia, nitida, subtùs subferrugineo-tomentosa, ætate glabra; media reliquis paullò majora. PETIOLUS pollicaris vel sesquipollicaris, sulcatus, basi levitèr incrassatus, tomentosus; *rachis* recta, submarginato-sulcata, ad insertionem foliolorum subarticulata; *petioli partiales* perquàm breves. Stipulæ lanceolatæ, acuminatæ, nunc lobulosæ, 3 lineas circitèr longæ, petiolo utrinque adnatæ, deciduæ. Panicula terminalis, ramosa, rotundata, foliis supremis brevior. Pedunculi teretes, villosi, ad divisuras muniti *bracteis* parvulis, linearibus, caducis. Flores albi, parvi, suaveolentes, brevè pedicellati. Calycis *laciniæ* lanceolatæ, breves. Petala orbiculata, brevissimè unguiculata. Ovarium obovatum, villosum, 2—3-loculare; *locula* 2-sperma. Styli 2, 3, vel 4. Pomum parvum, glabrum, obovato-rotundatum, rubrum.

Plate CLXXXIX. Fig. 1. 2. Flower. 3. The same, dissected. 4. Ovary, opened.

HEDERA POLYACANTHA. Tab. 190.

Arbor aculeis armata frequentissimis, compressis, sursùm incurvis; foliis palmatim 5—7-lobis, subtùs pedunculisque puberulis, lobis ovatis acuminatis, serrulatis; umbellis racemoso-paniculatis, villosis.

Crescit in monte Sheopur alibique in Napalia, florens Februario.

Arbor satis magna. Ramuli patentes, crassi, cylindrici, cinerei, aculeis armati valdè numerosis, brevibus, compressis, sursùm incurvis, fuscescentibus; supernè pedunculique pubescentes. Folia versus summitates approximata, sparsa, patentia, longè petiolata, subrotundo-cordata, palmata, 5—7-loba, 6—10-pollicaria, plana, coriacea, suprà nitida, lævia, subtùs vix puberula, costis 5 vel 7 valdè crassis, nervoso-venosa; *lobi* ovati, acuminati, cuspidato-serrulati, inferiores basi ad latera sinus gibbosi. Petiolus gracilis, cylindricus, folium æquans vel eodem duplò longior, basi valdè dilatatus. Inflorescentia terminalis, magna, ovata, constans *racemis* umbellularum pluribus, oblongis, approximatis, alternis. Pedunculi cylindrici, pubescentes; *communis* aliquandò aculeo parvulo, vago munitus. Flores parvi, flavicantes, *pedicelli*que extùs densè villosi, dispositi in *umbellas* globosas, pedunculatas. Calycis *dentes* 5, breves, valdè villosi. Petala patentissima, lanceolata, acuta, intùs levitèr carinata. Stamina 5, longitudine petalorum; *antheræ* majusculæ. Ovarium turbinatum, pubescens; *stylus* brevis, subangulatus; *stigma* retusum.

Plate CXC. Fig. 1. 2. Flower. 3. The same, opened. 4. Ovary, opened. 5. Part of a branch. 6. Full-grown leaf.

DEUTZIA STAMINEA. Tab. 191.

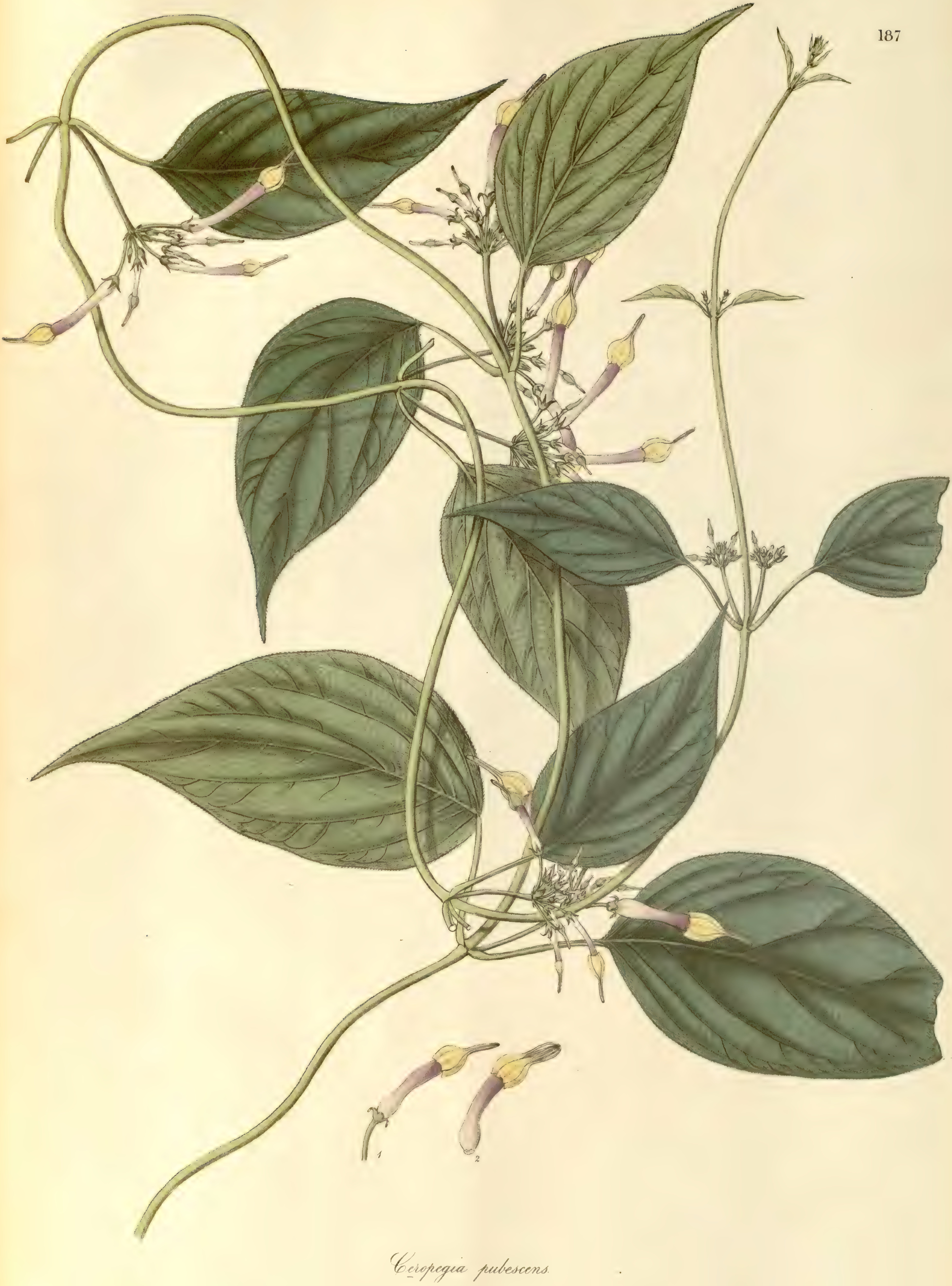
Deutzia staminea Brown MS.

Philadelphus vel Leptospermum stamineum Wall. in Herb. Procur. Ampl. Merc. Angl. Indiæ Orient., anno 1824.

Habitat in montibus altissimis prope vallem Napaliæ magnam; etiam in monte prope vallem Deyra dictam. In Kamaon legit Robertus Blinkworth. Floret Aprili, Maio.

Frutex ramosus, 3—4-pedalis. Rami oppositi, patentes, graciles, elongati, cylindrici, cortice induti pallido, dum juniores foliaque subtùs vestiti tomento copioso, minutìm stellato, adpresso, albo; vetustiores glabri, a foliis ferè denudati. Folia opposita, patentia, in ramis recentibus numerosa et approximata, lanceolata, attenuato-acuminata, cuspidato-serrulata, ad basin acutiusculam apicemque integerrima, 2—3-pollicaria, pallida, scabrida, utrinque obsitæ, præcipuè ad paginam inferiorem ubi densissimè, tomento cano, e squamulis adpressis, minutissimis, peltatis, depresso-umbilicatis conflato, pilisque stellatis; subtùs costâ nervisque obliquis elevatis. Petiolus vix bilinearis, suprà levitèr sulcatus, basi lineolâ elevatâ trans ramum continuatus. Stipulæ nullæ. Flores magni, albi, odorati, extùs stellato-tomentosi, ternati, pedunculati, dispositi in *corymbos* parvos, omnium ramorum ramulorumque terminales. Pedunculi teretes, carnosi, tomentosi, indivisi, sæpiùs 2 vel 3, pollicares; *pedicelli* unguiculares, graciles, infra medium bracteolâ unâ alterâve minutâ, lineari. Calyx parvus, 5-partitus; *laciniæ* lanceolatæ, acutæ, subdistantes. Corolla 5-petala, calyce multò major, æstivatione valvata; *petala* semiunguicularia, oblonga, obtusa, subpatentia, glanduloso-punctulata, extùs pilosula, intùs glabra, basi latiusculâ vertici ovarii inserta, laciniis calycis alternantia. Stamina 10, erecta, quorum 5 petalis alternantia et longitudine eadem subæquantia, 5 breviora, iisdem opposita; *filamenta* filiformia, utrinque aucta membranâ lineari, sursùm dilatatâ, terminatâ dente lanceolato, obtuso, parùm divergente, apice subulata, nuda; primo aspectu filamentum apice 3-dentatum, esse apparet dente medio subelongato, subulato, antherifero, lateralibus planis, obtusis, nudis. Anthera ovata, erecta, bilocularis, utrinque dehiscens. Ovarium inferum, obovato-turbinatum, cano-tomentosum, magnitudine grani piperis nigri, vertice planiusculum, 5-loculare; *ovula* plurima, placentæ angulo interiori loculi adfixæ, carnosæ, bipartibili inserta. Styli 4 vel 5, staminum longitudine, tereti-subclavati, basi paralleli, apice paullò recurvati. Stigmata lævia, carnosa, obtusa.

Plate CXCI. Fig. 1. Fascicle of flowers. 2. A detached flower. 3. Stamens. 4. Pistil. 5. 6. Ovary, opened. 7. A detached leaf, showing the stellate tomentum on the under surface.

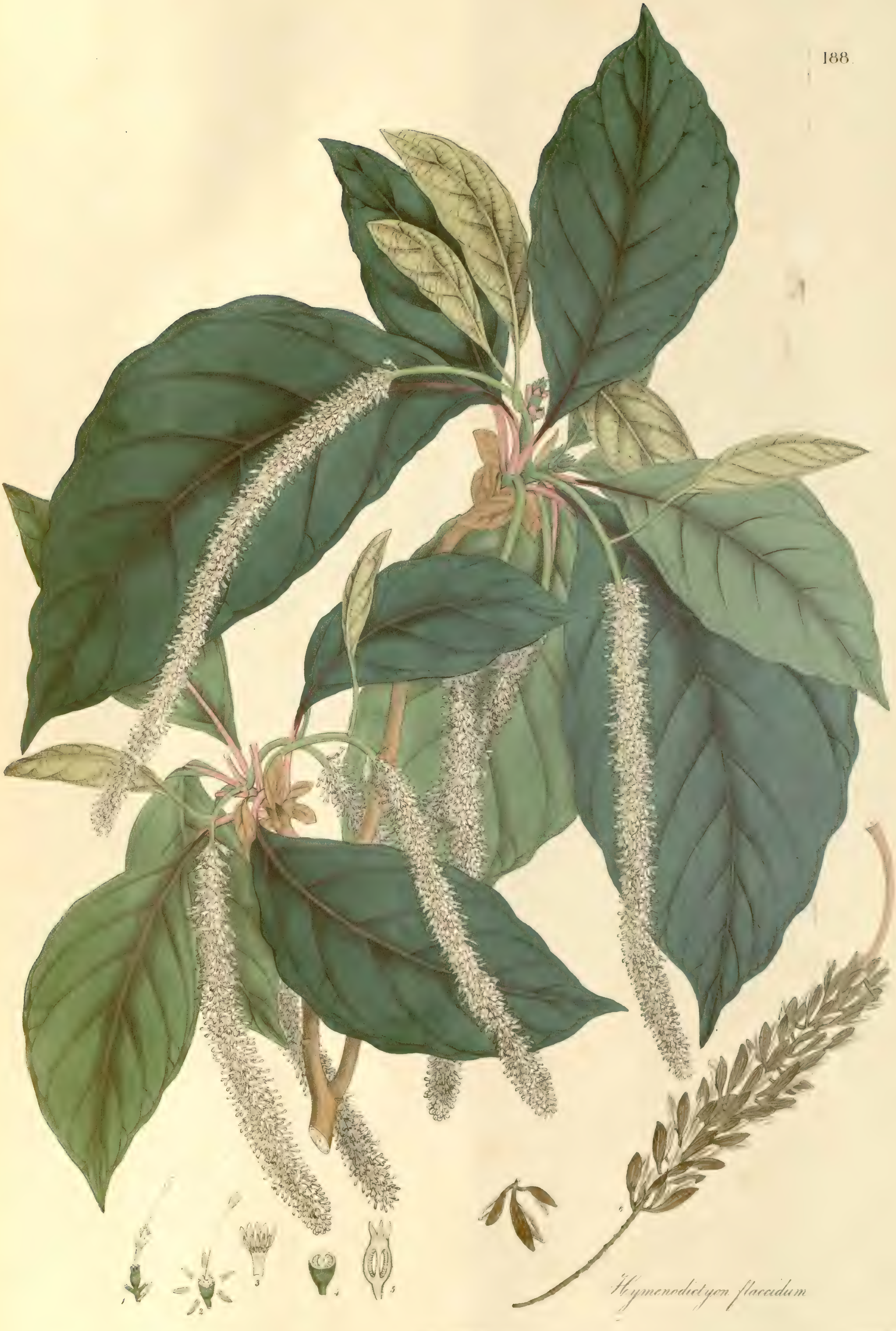


Ceropegia pubescens.

Vishnupersaud del.

Printed by Engelmann, Graf, Coindet & Co.

M. Gauci lith.



Hymenodictyon flaccidum

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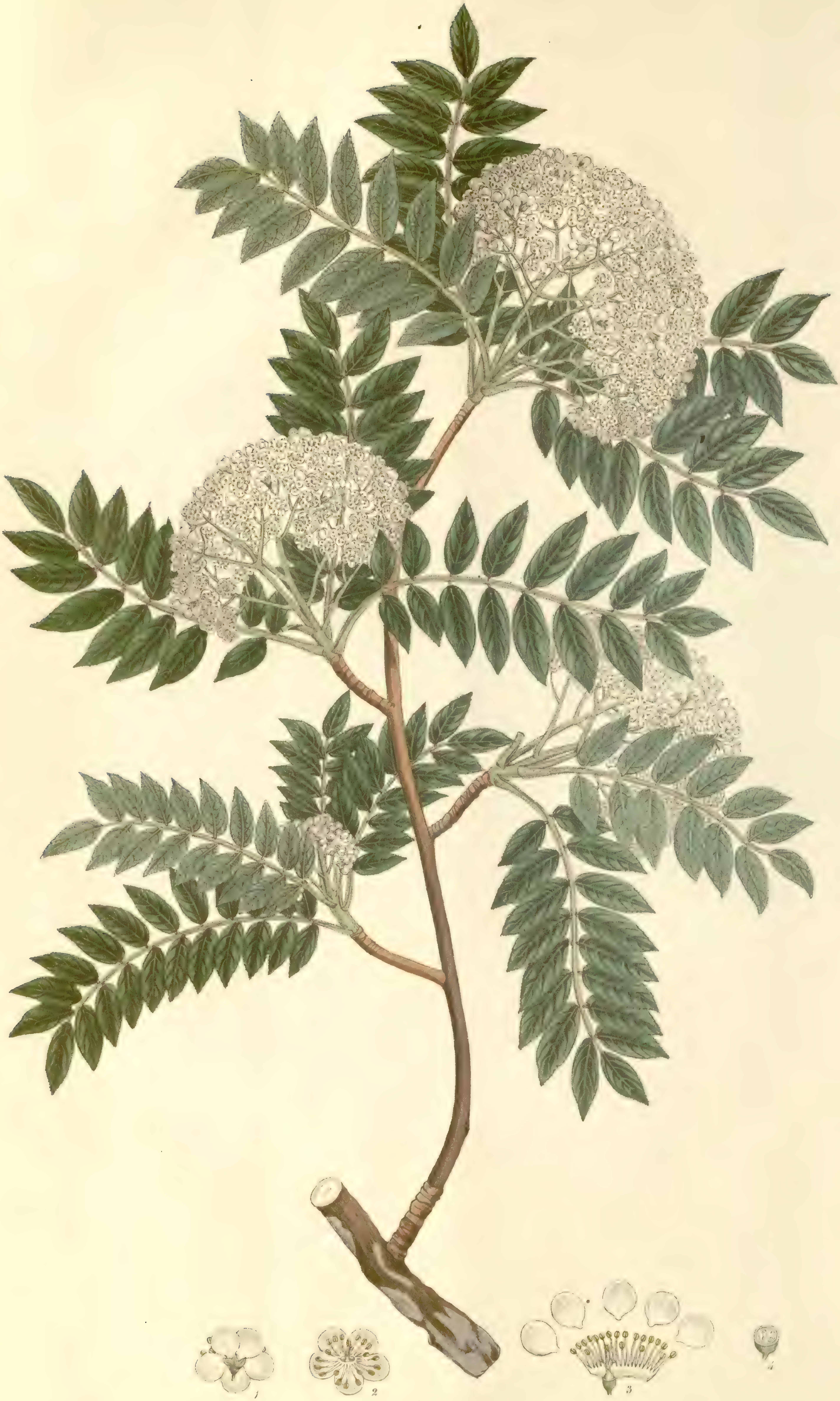
M Gauci lith.



Gorachand del.ᵗ

Pyrus foliolosa.

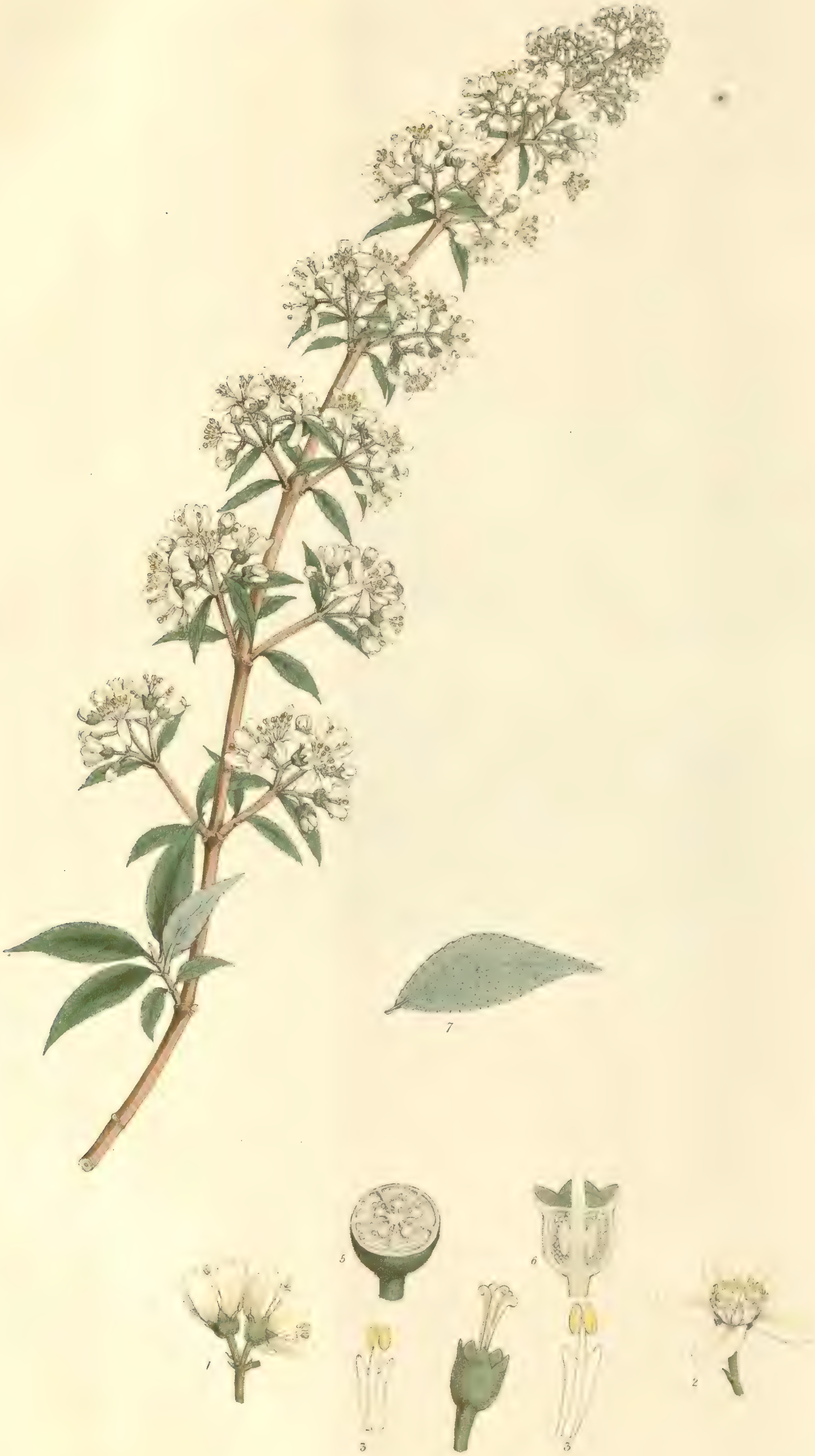
M. Gauci lith.

Printed by Engelmann, Graf, Coindet & Co.

Hedera polyacantha

Vishnupersaud del^{t}.

M. Gauci lith.



Deutzia staminea.

Gorachand del^{t}

M Gauci lit

Printed by Engelmann Graf. Coindet & Co.

POTHOS DECURSIVUS[*]. Tab. 192.

Pothos decursiva Roxb. Flor. Ind. vol. i. p. 456.

Habitat super arboribus in Sillet, M. R. Smith; secus ripam fluminis Attran in Martabania, florens Martiò. In Horto Calcuttensi floret Octobre.

Plate CXCII. Fig. 1. A detached pistil. 2. Stamen. 3. Ovary, opened. 4. Outline of a full-sized leaf. 5. A detached lobe of the same.

IMPATIENS PUBERULA. Tab. 193.

Impatiens? puberula Decand. Prodr. vol. i. p. 687.

Impatiens mollis Wall. in Roxb. Flor. Ind. vol. ii. p. 461.

Habitat in sylvis densis Sheopur Napaliæ, florens sub pluviis.

Plate CXCIII. Fig. 1. 2. Flower.

IMPATIENS INSIGNIS. Tab. 194.

Impatiens insignis Decand. loc. cit. p. 688.

Crescit in montibus Napaliæ, florens et fructifera sub pluviis.

Planta annua, carnosa, lævis, erecta, 2-pedalis. Caulis cylindricus, sulcatus, valdè carnosus, pallidus, infernè digitum ferè crassus, ad distantiam pollicis nodoso-intumescens, basi *radiculas* exserens longas, fibrosas; simplex vel *ramum* emittens unum alterumve brevem, simplicem, gracilem. Folia approximata, alterna, lanceolata, attenuato-acuminata, serrata, serraturis gibboso-obtusis cum cuspidula decumbente, basi attenuato-acuta, 3—4-pollicaria, utrinque glabra, punctisque minutissimis, subhyalinis obsita, suprà atroviridia, rugosula, subtùs nervis valdè obliquis, parallelis costâque elevatis. Petiolus brevissimus, vix ultra lineas duas emetiens, basi utrinque *glandulâ* stipulæformi, magnâ, carnosâ, rotundatâ. Racemi versus apicem caulis axillares, solitarii, longè pedunculati, 6-pollicares, *paniculam* formantes magnam, terminalem. Pedunculus *communis* teres, gracilis, purpurascens, 3-pollicaris, abiens in *rachin* teretem, coloratam; *partiales* filiformes, ferè pollicares, suffulti *bracteâ* ovatâ, acutâ, concavâ, deciduâ; fructiferi elongati, decurvati. Flores magni, nutantes, inodori, coloris sanguinei. Calycis *foliola* ovata, cuspidata, purpurea. Petalum *supremum* ovatum, patulum; *lateralia* biloba, subunguiculata; *inferius* amplum, fauce orbiculato-truncatum, hinc acutum, desinens in *calcar* gracile, teres, leviter arcuatum, sesquipollicare, pedunculo ferè duplò longius. Capsula cylindrico-clavata, lævis, pendula, longè pedunculata.

Plate CXCIV. Fig. 1. Flower. 2. The same, dissected. 3. Capsule.

DENDROBIUM MOSCHATUM, *Varietas.* Tab. 195.

Dendrobium moschatum Wall. apud Lindl. Orchid. p. 82.

Epidendrum moschatum Buchanan apud Symes, Embass. to Ava, p. 478, cum icone.

Dendrobium Calceolaria Hook. Exot. Botany, vol. iii. tab. 184.

Habitat super arboribus montium Sillet confinium, undè in Hortum Calcuttensem misit M. R. Smith. Floret mense Aprilis, Maii.

Planta magna, speciosissima, super arborum truncis radicans. Caules cylindrici, læves, sulcati, vaginati, *radiculas* plures, cylindricas, pallidas emittentes. Folia bifariè alterna, valdè approximata, coriacea, oblonga, acuta, lævissima, lucida, coriacea, 5-pollicaria, sessilia super *vaginis* arctè cauli adpressis, truncatis, vix pollicaribus. Flores magni, patentissimi, diametrum ferè 3-pollicarem emetientes, salvo labello glaberrimi, longè pedunculati, e flavo dilutè carnei, circiter octo distanter dispositi in *racemum* maximum, pendulum, lato-ovatum, pedunculatum, foliis oppositum, in caule aphyllo lateralem. Pedunculus *communis* 2-pollicaris, teres, levitèr sulcatus, glaucescens, usque ad medium indutus *squamis* laxiusculè vaginantibus, imbricatis, truncatis; *rachis* gracilis, flexuosa, 6-pollicaris; *pedunculi partiales* divaricato-patentissimi, cylindrici, suffulti *bracteâ* membranaceâ, lanceolatâ, acutâ, concavâ, patentissimâ, deciduâ, apice subclavati. Sepala oblonga, rotundato-acutiuscula, ferè sesquipollicaria, recurvato-patentissima; *lateralia* basi obliquè connata in *calcar* brevissimum et obsoletum, conicum, obtusum. Petala lato-ovata, plana, sepalis paullò longiora, pollicem ferè lata, obtusissima, basi contracta in unguem latum, brevissimum. Labellum petalis tertiò minus, obovato-saccatum vel calcariforme, extùs versus marginem incurvatum faucemque magnam villosum, intùs glabrum, flavum, parietibus purpureo-maculatis, in unguem brevem, canaliculatum deorsùm attenuatum. Columna crassa, brevis, conica, apice utrinque terminata dente plano, lato, parallelo, obtuso; ad dorsum gibbosa, anticè plana, cavitate stigmaticâ amplâ excavata, basi leviter producta. Anthera magna, conica, carnosa, denticulo longo filiformi adfixa. Pollinia 4, per paria parallela. Ovarium breve, clavatum, parùm sulcatum, læve.

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[*] The name *Pothos caudata*, inscribed on the plate, should be altered to that here given.

This truly beautiful plant is so perfectly like Dr. Buchanan's *Epidendrum moschatum*, figured and described by him in Symes's Embassy to Ava, that I cannot distinguish it, except as a variety, differing only in the colour of its flowers. It was sent to the Calcutta Garden by the late Mr. Smith from the mountainous tracts bordering on Sillet. The flowers are of a yellowish pink colour, and rather larger than those of *Dendrobium moschatum*, which I have seen in great perfection in the garden of my highly esteemed friend Dr. Carey, at Serampur, sixteen years ago, and in the Botanic Garden at Calcutta, where it was introduced by that gentleman.

I perfectly agree with my friend Prof. Lindley, (*Genera and Species of Orchid. Plants*, p. 83, under No. 37,) in considering Dr. Hooker's *Dendrobium Calceolaria*, described and figured in the Exotic Botany of the latter eminent botanist, as specifically the same as the Pegu plant; it is in fact the same variety as mine, although its flowers partake in a greater degree of the tessellated structure of the original species. I was not so fortunate as to meet with Dr. Hamilton's plant during my tour through the Burmese countries.

Plate CXCV. Fig. 1. Flower, opened. 2. Column, with the anther.

DENDROBIUM HETEROCARPUM. Tab. 196.

Dendrobium heterocarpum Wall. apud Lindl. loc. cit. p. 78.

Habitat in sylvis montanis Napaliæ super arboribus, florens Februario, fructiferum Martio.

Radicis *fibræ* plurimæ, cylindricæ, cinereæ, carnosæ. Caules plures, cespitosi, e basi flavicante, tereti clavati, penduli, leviter flexuosi, apice digitum minimum crassi, glaberrimi, obsiti *vaginis* tenuissimè membranaceis, arctè adpressis, parallelè multilineatis, ore obliquis; *floriferi* nudi, inter vaginas breves, emarcidas intumescentes. Folia bifariè alterna, approximata, lanceolata, acuta, sessilia, 5-pollicaria, membranacea, striata, lucida, lævia. Flores magni, patentes, flavi, fragrantes, ex ostio vaginarum aphyllarum geminati, nunc pauci subracemosi. Pedunculus *communis* brevis, cylindricus, bracteis aliquot brevibus, vaginantibus involutus; *partiales* pollicares, teretes. Sepala patentia, lanceolata, acuta, glabra, æqualia; *lateralia* basi in *calcar* breve, conicum, obtusum infra basin columnæ connata. Petala sepalis æqualia. Labellum magnum, flavum, ovatum, subinfundibuliformi-convolutum, basi glabrum, attenuatum in unguem sulcatum; *limbus* trilobus, crenulatus, suprà cano-villosus, purpurascens; *lobi laterales* obtusi, *intermedius* maximus, ovatus, acuminatus, patens, apice subrecurvatus. Columna brevis, conica, terminata dentibus duobus lateralibus, lanceolatis, acutis, basi valdè producta. Anthera conica. Pollinia 4, gracilia, duriuscula. Ovarium breve, sulcatum. Capsula pendula, sesquipollicaris, pedunculata, clavata, 3-angularis, profundè 3-sulcata, angulis bilobis, utrinque obtusa, terminata collo cylindrico, brevi, columnæ permanentis, incrassatæ superstite.

Plate CXCVI. Fig. 1. Flower, dissected. 2. Column and labellum. 3. Anthers and pollen-masses.

ERIA ALBA. Tab. 197.

Eria alba Lindl. loc. cit. p. 67.

Crescit in monte Sheopur, super arborum truncis, florens Maio.

Planta lævis, gregaria, erecta, 6-pollicaris. Fibræ radicales densissimæ, capillaceæ, ramosæ, breves. Pseudobulbi plures, seriati, valdè approximati, ovati, complanati, sesquipollicares, fusci, nitidi, striis pallidis, ferrugineis, numerosis, parallelis, interque has sulcis totidem profundis ornati, apice subacuto notati vestigiis aliquot dimidiato-annularibus ab insertione foliorum manentibus, basique rudi-

Pothos caudata

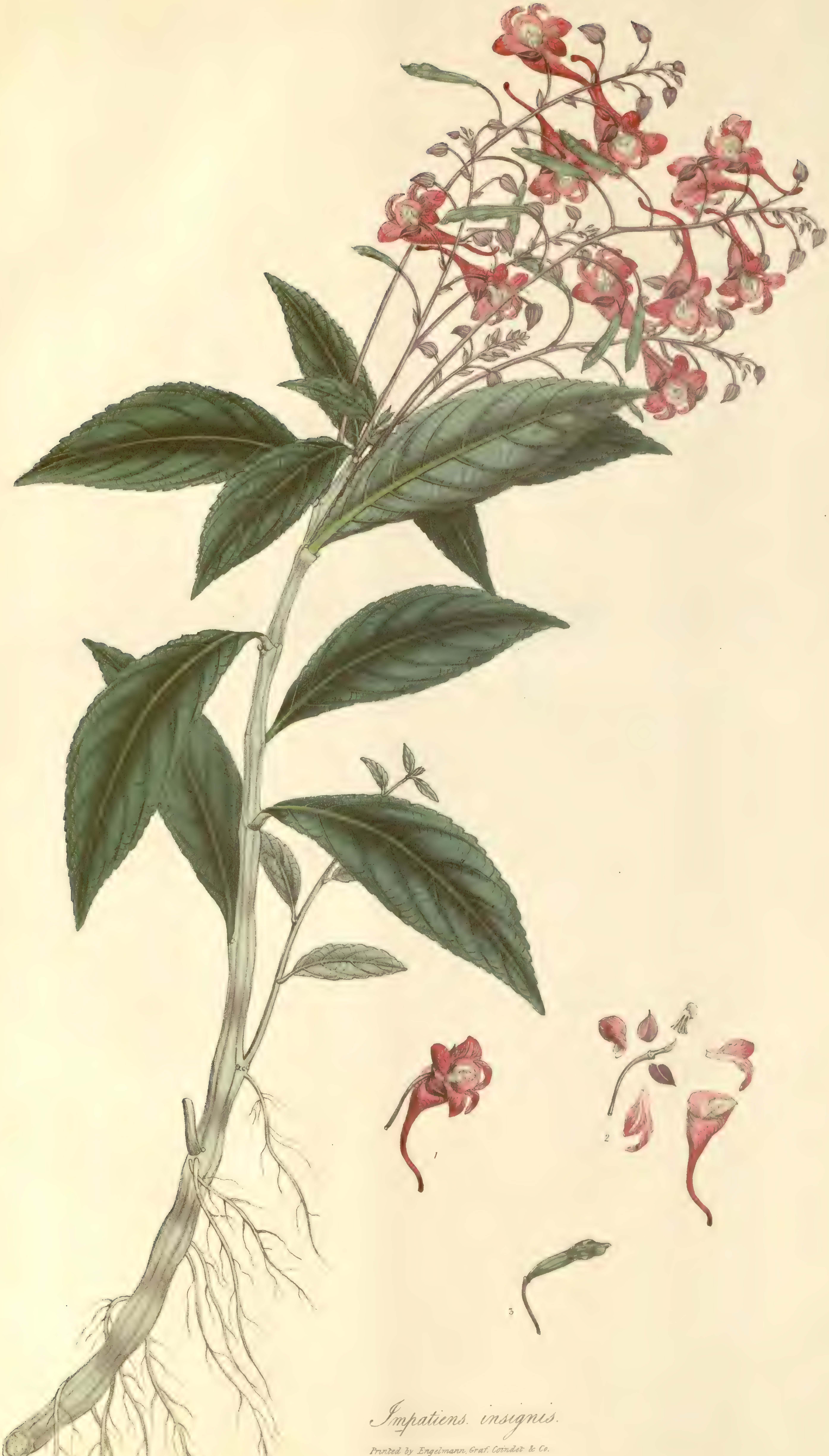
[illegible]

M Gauci lith

Printed by Engelmann, Graf, Coindet & Co.

Impatiens puberula.

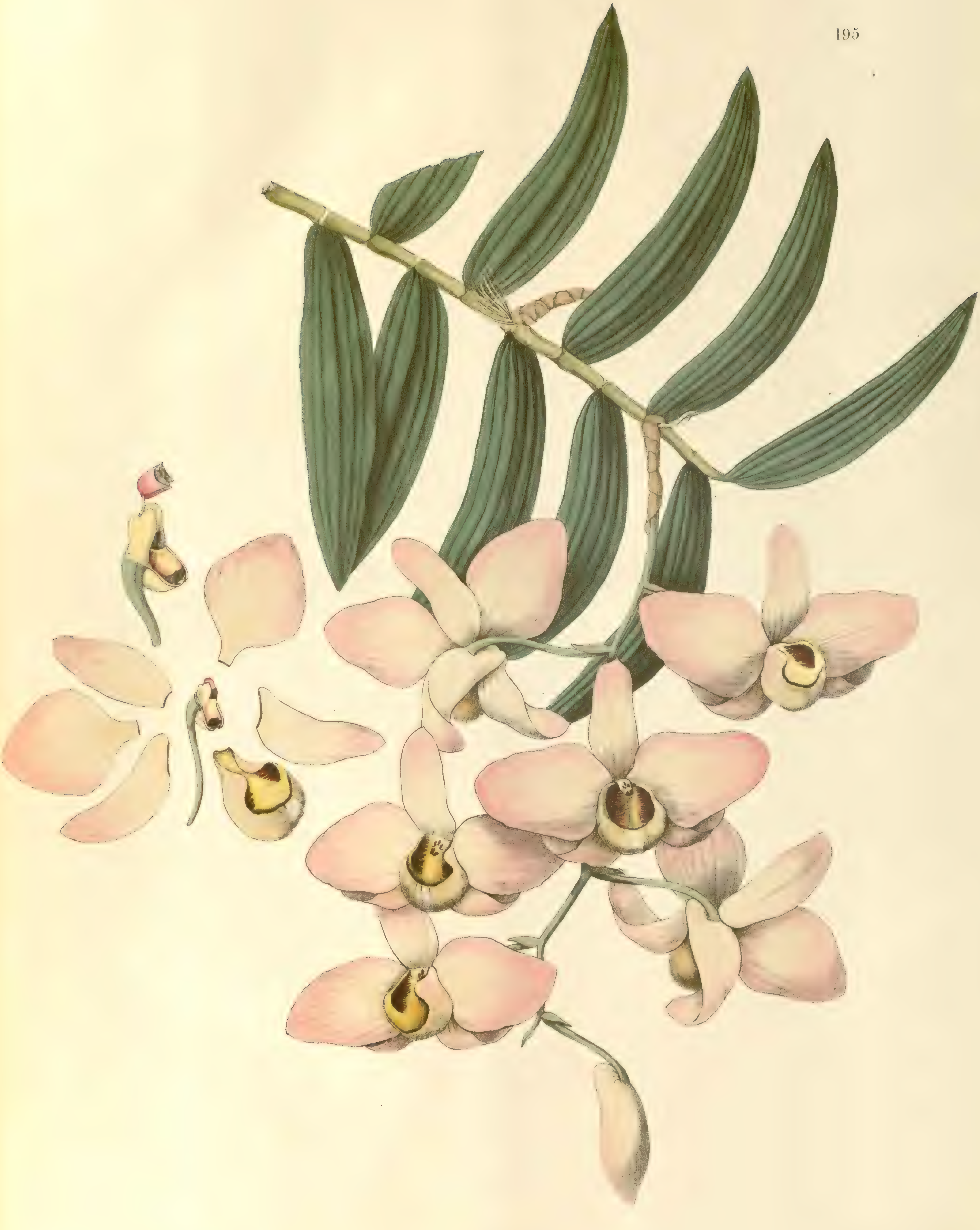
rsaud del
Printed by Engelmann, Graf, Coindet & Co
M Gauci lith



Impatiens insignis.

Printed by Engelmann, Graf, Coindet & Co.

Gorachand del.

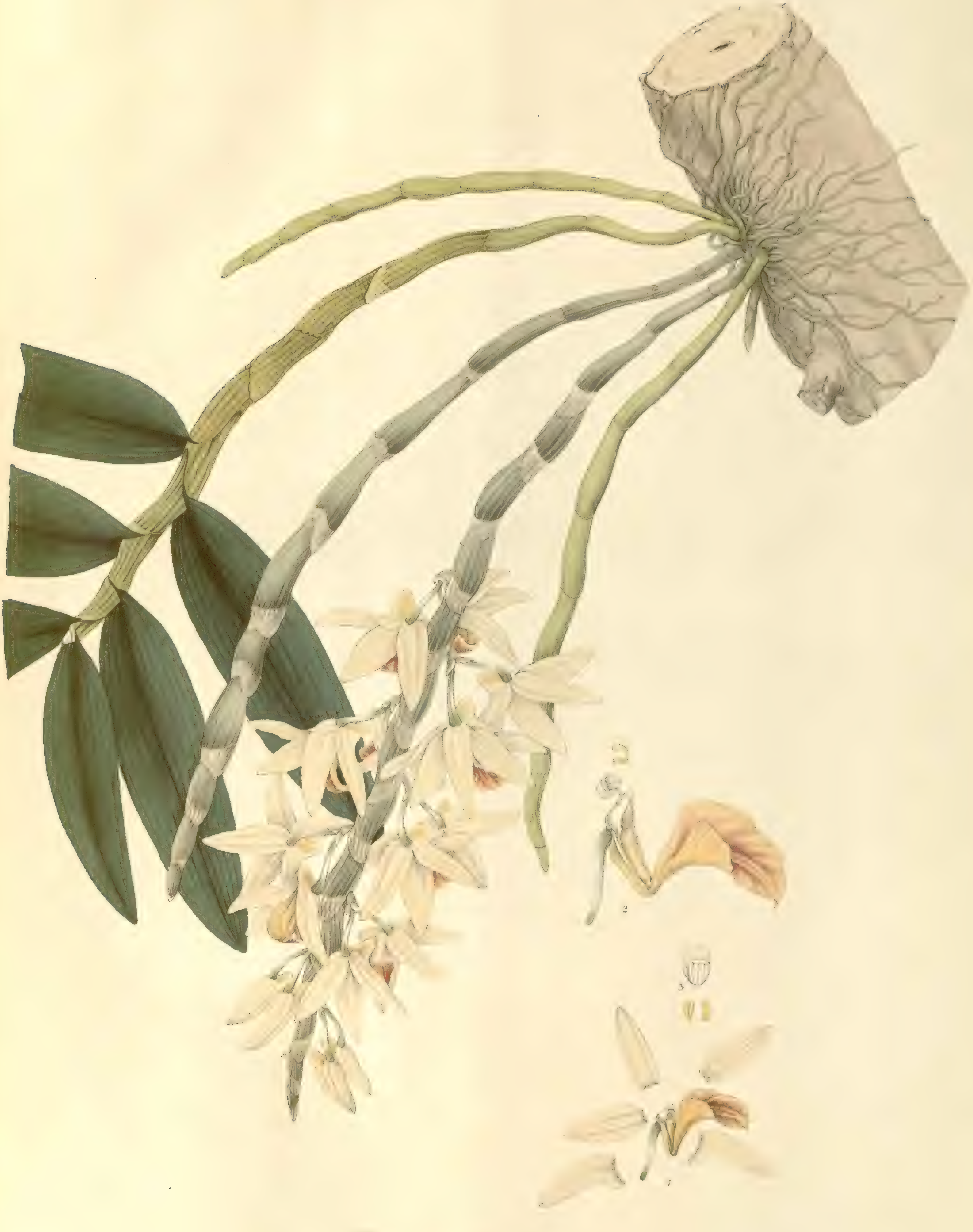


Dendrobium moschatum var.

Gorochand del^t

M. Gauci lith.

Printed by Engelmann, Graf Coindet & Co

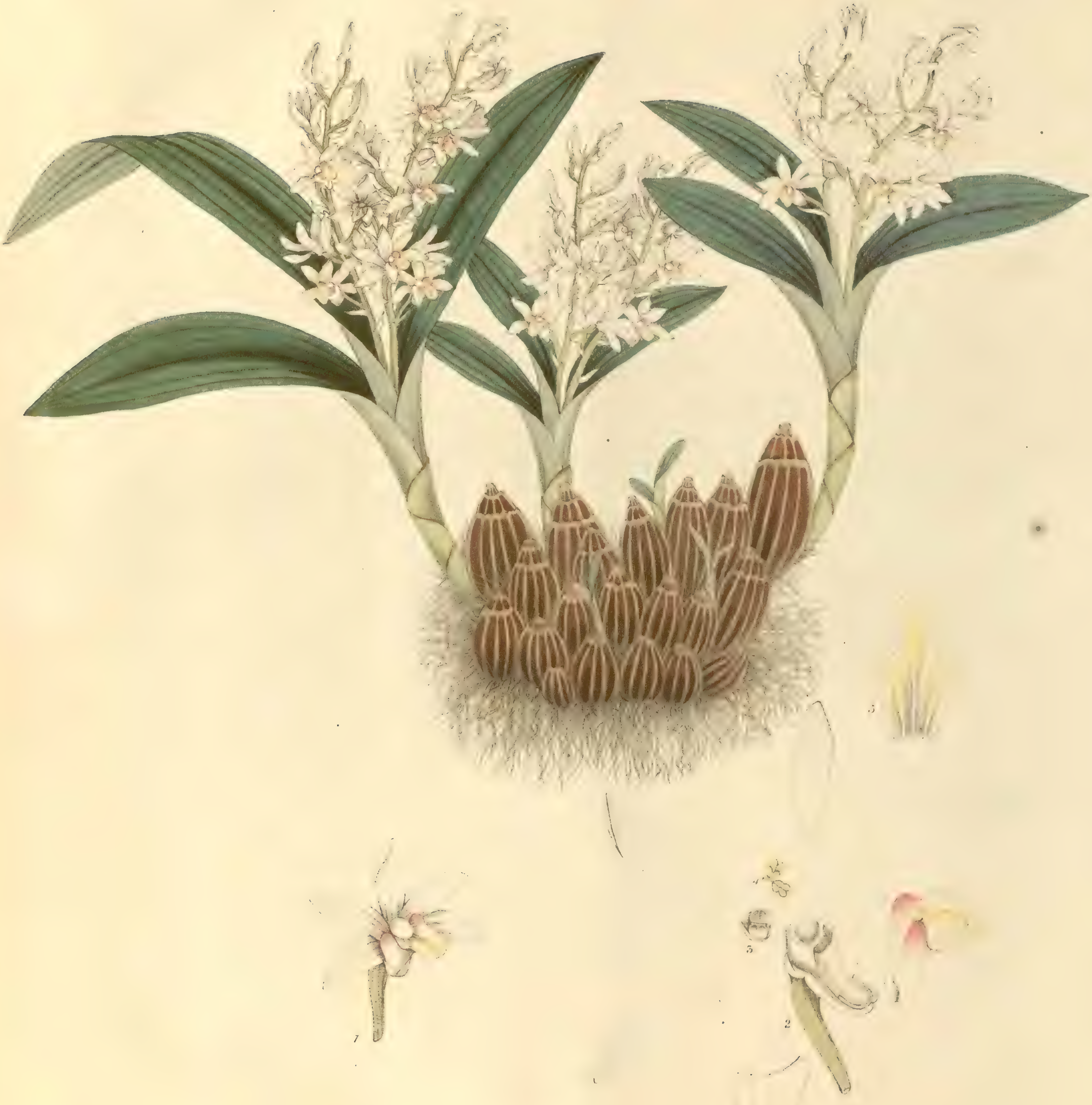


Dendrobium heterocarpum

Gorachand del^t

Printed by Engelmann Graf Coindet & Co

M. Gauci lit



Eria alba.

Vishnupersaud del.
M Gauci lit
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mentis vaginarum præteriti anni fibrosis. Folia pauca, 3 vel 4, bifaria, patentia, oblongo-lanceolata, attenuato-acuta, 3—5-pollicaria, suprà atroviridia, lucida, subtùs pallida, levissimè nervosa, basi plicato-imbricantia, *caulem*que simulantia cylindricum, bipollicarem, e basi pseudobulbi surgentem, erectum, squamis alternantibus, adpressis, acutis vaginatum. Scapi terminales inter folia intima, sæpissimè 2, raro unicus, teretes, erecti, breves, puberuli. Flores albi, mediocris magnitudinis, gratè odori, plures dispositi in *racemum* terminalem, erectum, oblongum, 2—3-pollicarem, vix ultra folia elevatum. Rachis leviter hìnc indè curvata, villosa, teres, carnosa. Pedunculi teretes, semiunguiculares, cum *bractea* æquante, lanceolata villosi. Sepala lanceolata, acuta, patentia, ferè unguicularia; *lateralia* basi paullò dilatatâ, obliquâ connata in *calcar* brevissimum, obtusum, conicum. Petala lineari-lanceolata, sepalis parùm angustiora. Labellum adscendens, infundibuliformi-convolutum, longitudine petalorum, flavescens, intùs tricarinatum; *limbus* 3-lobus; *lobus intermedius* ovatus, obtusus, recurvatus, integerrimus, suprà convexus, mediò lineâ longitudinali, saturatè flavâ notatus; *laterales* triplò minores, erecti, paralleli, ovati, obtusi, rosei. Columna brevis, apice truncato-concava. Anthera semiglobosa. Pollinia 8, cuneata, compressa, alba. Ovarium cuneatum, 3-angulare, pubescens.

Plate CXCVII. Fig. 1. Flower. 2. The same, opened. 3. Anther. 4. Pollen-masses. 5. Labellum, expanded.

PHAIUS ALBUS. Tab. 198.

Phaius albus, caulescens, foliis oblongo-lanceolatis, acutis, subtùs glaucis; sepalis petalisque oblongo-lanceolatis, acutis, subæqualibus, labello oblongo, cucullato, denticulato, apice rotundato, disco 5-cristato, calcare rectiusculo, emarginato.—*Lindl. MS.*

Crescit super arboribus montis Chandaghiry Napaliæ. In montibus Sillet propinquis legit Franciscus de Silva? Floret mensibus Junii et Julii.

Radix constans fibris cæspitosis, fuscis, brevibus. Caules aliquot pedales bipedalesque, quin longiores, penduli, subrigidi, cylindrici, basi digitum minimum ferè crassi, plùs minùsve involuti *vaginis* cylindricis, laxè truncatis, nunc ore obliquo subfoliaceis, apicem versus attenuati et foliiferi, demùm omninò aphylli, uti tota planta læves, glaucescentes. Folia alterna, bifaria, obliquè subpatentia, valdè approximata, oblongo-lanceolata, attenuato-acuminata, 6—8-pollicaria, basi plicata et per articulationem in vaginas desinentia, suprà lucida, subtùs glauca, costâ gracili, nervisque pluribus, filiformibus, parallelis, elevatis. Flores magni, speciosi, albi, odorati, pauci dispositi in *racemum* terminalem, bracteatum, foliis breviorem, pendulum, suffultum *pedunculo* cylindrico, vaginâ involuto, in rachin abeunte subflexuosam. Bractea infra singulum florem, cujus longitudinem ferè æquat, 2-pollicaris, lanceolata, acuminata, concava, membranacea, e viridi alba, seriùs dilabescens. Pedicelli cylindrici, ferè pollicares. Sepala lanceolata, acuta, æqualia. Petala sepalis æqualia, iisdem paullò angustiora. Labellum rectum, infundibuliformi-convolutum, ferè bipollicare, basi desinens in *calcar* levissimè recurvum, subcylindricum, apice subretusum, semipollicare, pedicello dimidiò brevius; *laminæ* patentis, obsoletè 3-lobæ *lobi laterales* obtusi, *intermedius* maximus, ovatus, obtusus, crenulato-denticulatus, purpureo-venulosus, *discus* flavus, cristis 5 papillosis, parallelè usque ad fundum labelli decurrentibus. Columna clavata.

Plate CXCVIII. Fig. 1. Flower, dissected. 2. Pollen masses, detached.

ENGELHARDTIA ROXBURGHIANA. Tab. 199.

Foliolis oppositis, 4—5-jugis, adultis oblongis, acuminatis, glabris, junioribus tomentosis; fructibus hispidissimis, alis lineari-lanceolatis, acutiusculis, racemis folio longioribus.—*Lindl. MSS.*

Engelhardtia Roxburghiana, Lindl. MSS.

Juglans pterococca, Roxb. Hort. Beng. p. 68.

Nomen Hindustanicum, *Silapoma*; Bengalense, *Boles* (ex Roxb.).

Crescit in Sillet, F. De Silva; in Camrupæ borealis sylvis, Hamilt.; ipse observavi in Napalia et ad oram Tenasserim. Floret et fructus profert mensibus Septembris—Aprilis.

Arbor magna, cortice brunneo. Ramuli scabri, punctis notati elevatis, albis; *novelli* obsiti squamulis aurei coloris. Folia alterna, vel subopposita, abruptè pinnata, 6—12-pollicaria. Foliola 3—5, usque ad 13, brevè petiolata, obliquè lanceolata, obtusè acuminata, integerrima, firma, lævia, pollices 3—6 longa, pollicem vel 2 lata. Petiolus teres, initio squamulosus. Panicula axillaris terminalisque, foliis brevior, constans *amentis* masculis pluribus gracilibus, simplicibus, femineis paucis intermixtis, squamulosis. Flores *masculi* suffulti squamis solitariis, obsoletis. Calyx 4-phyllus; *foliola* rotundata, concava, distantia. Corolla nulla. Filamenta 12, basi sepalorum inserta. Antheræ magnæ, bilobæ. Florum *femineorum* squamæ et calyx ut in masculis, sed majores. Ovarium inferum, turbinatum, lepidosum, uniloculare; *ovulum* solitarium fundo loculi insertum. Stigma subsessile, 2-lobum; *lobi* patentes, sublaceri. Nux rotundata, valdè pilosa, magnitudine pisi, unilocularis, basi pseudoquadrilocularis, coronata calyce permanente, suffulta squamâ amenti auctâ, trialatâ; *alæ* longæ, lanceolatæ, obtusæ, scariosæ: *intermedia* maxima, *laterales* interdum productæ in processum brevem, bilobum. Semen 4-lobum. Integumentum simplex, tenue, fuscum. Perispermum semini conforme, parcum, sebaceum. Embryo inversus. Cotyledones contortuplicatæ, bipartitæ; *lobi* bifidi. Plumula biloba. Radicula supera.—*Roxb. MSS.*

I am indebted for the description of this and the following plant (*Ulmus lanceæfolia*), and for the drawings from which the engravings have been made, to the valuable collection made by the late Dr. Roxburgh, and deposited in the library of the Honourable East India Company. Dr. Roxburgh says that the bark possesses much tannin, and is reckoned by the natives of Sillet the best they are acquainted with for the purpose of tanning.

Plate CXCIX. Fig. 1. 2. Male flower. 3. Female flower. 4. Scales of ditto. 5. 6. Ovary, cut vertically and horizontally. 7. Fruit.

ULMUS LANCEÆFOLIA. Tab. 200.

Foliis obliquè lanceolatis, acuminatis, acutè serrulatis, coriaceis, glabris, lucidis, floribus hexandris, fasciculatis.
Habitat in montosis provinciæ Chittagong, ubi floret Martio.—*Roxb.*

Arbor magna. Rami undique extensi, patentissimi; *ramuli* graciles, nutantes, glabri. Folia bifaria, brevè petiolata, inæqualiter lanceolata, obtusè æqualiter serrata, firma, lucida, 2—3-pollicaria. Stipulæ ensiformes, caducæ. Flores parvi, numerosi, longè pedicellati, dispositi in *fasciculos* solitarios, axillares foliorum inferiorum vel delapsorum præteriti anni. Pedicelli villosi, graciles, uniflori, basi *bracteolis* ovatis, ciliatis, numerosis. Calyx campanulatus, glaber, 5-dentatus. Stamina 6, calyce longiora, plana, glabra. Antheræ ovatæ, bilobæ. Ovarium pedicellatum, oblongum, 1-loculare, 1-sporum; *ovulum* fornici loculi adfixum. Styli 2, breves, latiusculi, intùs villosuli. Stigmata simplicia. Capsula pedicellata, obliquè obcordata, tenuis, alâ scariosâ circumdata, pollicaris, 1-locularis. Semen ovale, compressum. Integumentum fuscum, simplex, tenue. Perispermum nullum. Embryo semini conformis, inversus.—*Roxb. MSS.*

Plate CC. Fig. 1. Flower. 2. The same, more advanced. 3. 4. Samara. 5. Embryo.

END OF VOL. II.

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Phaius albus.

Vishnupersaud del.ᵗ

M. Gauci lith.

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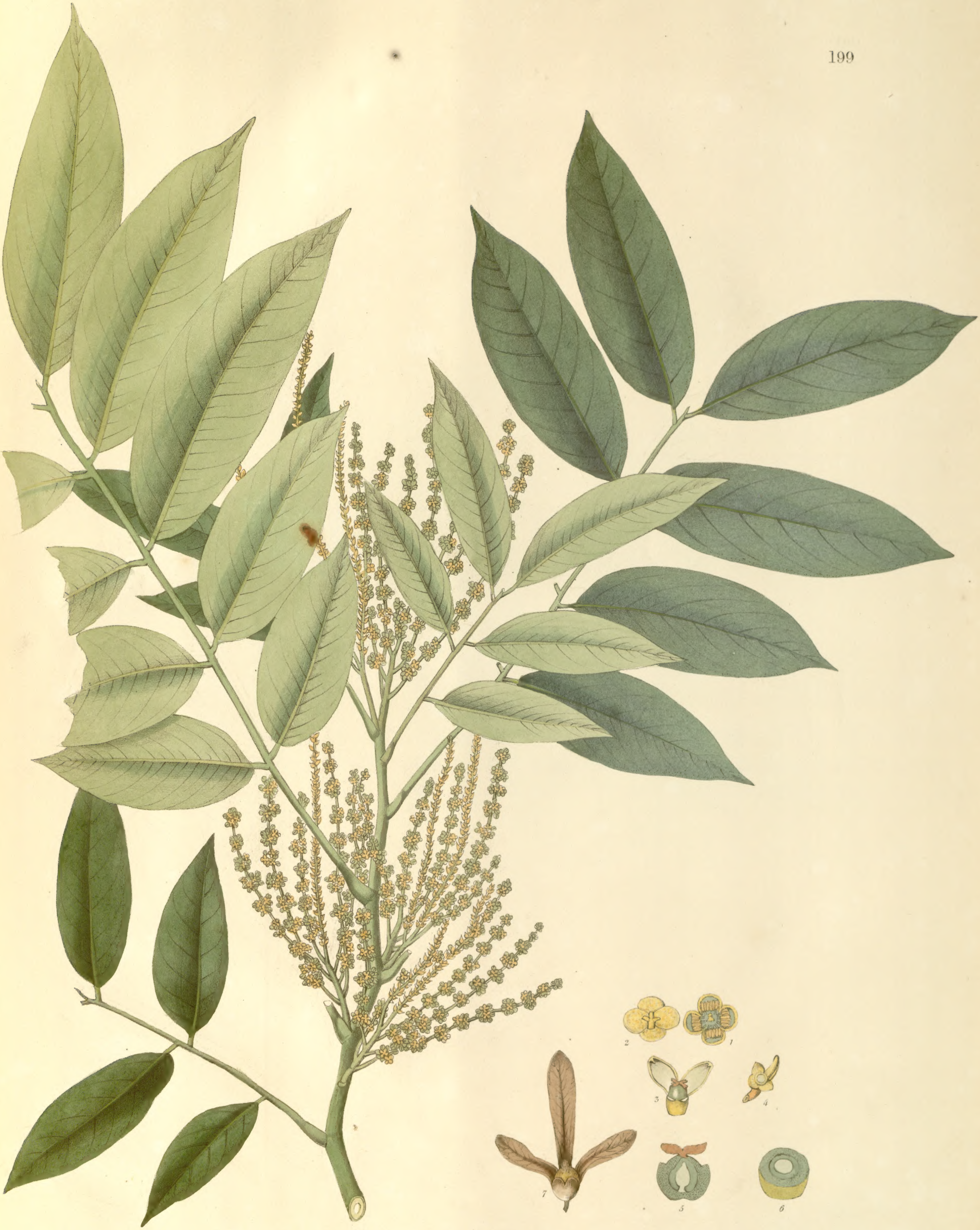

Engelhardtia Roxburghiana.

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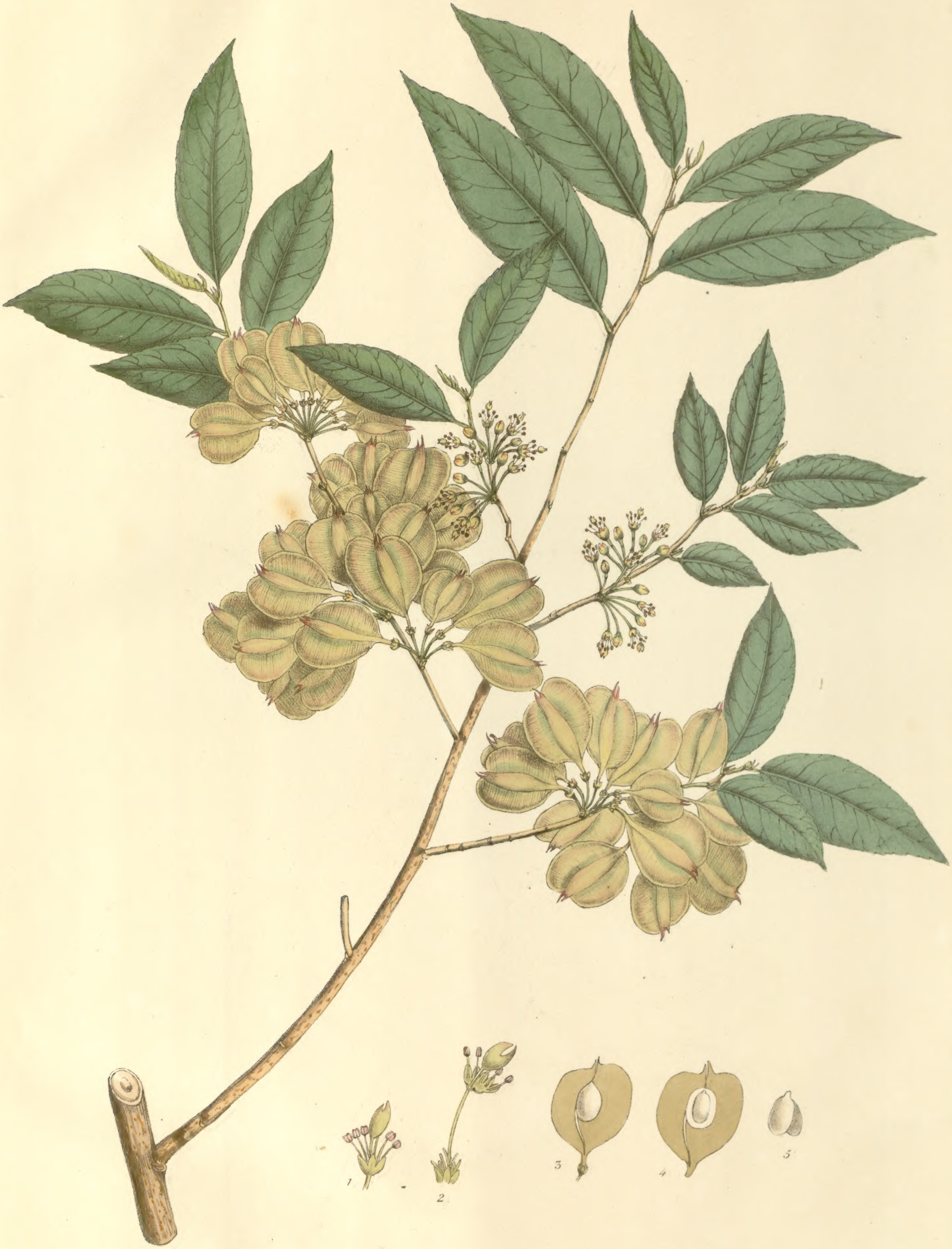

Ulmus lanceæfolia.

N. Gauci lith.

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